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Address.

THE PRESIDENT'S ADDRESS.

DELIVERED AT THE FIFTY-THIRD ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

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NEW YORK CITY.

Since the session held at St. Paul a year ago, a former president of this Association, paying the last great debt to nature, has passed

"To where beyond these voices there is peace."

Full of years and beyond the limit allotted by the Psalmist, Professor Edward Mott Moore, born in Rahway, N. J., July 15, 1814, died in Rochester, N. Y., March 3, 1902. He was one of the founders of the New York State Medical Association, a consistent and loyal friend of our national body and of an organized medical profession. Although his achievements in science were of a high order, his life was not circumscribed within the narrow limits of professional work. He was not only a skilful surgeon, bold and original, but more than this, he was a citizen of the highest type. The welfare of his neighbors, of his adopted city, state and the Nation were his. May his noble example be emulated, for it is just as much our duty to be true to the obligations of citizenship as to our profession.

INTERNATIONAL MEDICAL CONGRESS.

Before dealing with the more urgent matters of this meeting, your attention is called to the Fourteenth International Congress of Medicine which is to be held at Madrid from April 23 to 30, 1903.

As your presiding officer I had the honor to receive an appointment from the Secretary of State as a delegate to represent this Association at the Congress, and was requested by him to appoint five additional delegates from this body. In conforming to this request the following gentlemen have accepted commissions, and have received certificates from the State Department to the Congress: Dr. Nicholas Senn of Illinois; Dr. Maurice H. Richardson of Massachusetts; Dr. George Crile of Ohio; Dr. Richard Douglas of Tennessee, and Dr. Edward B. Dench of New York.

It should be the duty and pride of the separate state associations to send at least one delegate to this important meeting, and in doing this to correspond with Dr. Angel Fernandez-Caro, Secretary-General, Fourteenth International Congress of Medicine, Madrid, Spain.

A NEW ERA IN THE HISTORY OF THE AMERICAN MEDICAL ASSOCIATION.

This session marks an era in the history of the American Medical Association, for we meet under changed conditions, and in this our trial year, while we are adjusting ourselves to the new order, we confidently ask and expect to receive not only the consideration and forbearance, but the generous help which should be accorded to this experiment in government by which we earnestly hope to avoid the embarrassments and failures that under the old régime characterized the meetings of a body so large and unwieldy as the general session.

These changes involve not only the government of the Association proper, but also a changed relationship of the state association to the national body, as well as the relationship of the county to the state organization. Under the old organization our business was transacted by delegates from state, district and local affiliated societies in the proportion of one delegate for each ten members, while now, only affiliated state organizations have the right to send delegates, and these are only entitled to one delegate for each five hundred active members, or fraction of this number. These form the House of Delegates which is further reënforced by two members from each of the scientific sections of the Association, and one each from the Army, the Navy and the Marine-Hospital Service. Under the old régime the state association bore the same relationship to the national body as did the city, county and district organizations. Now, only the state association is represented, and they create the legislative body of the American Medical Association. In other words, the House of Delegates is a federation of all the state associations.

The reorganization at St. Paul, having taken away from the county organization its right to send delegates, also deprived the city, district branches and other minor associations of the same privilege, requiring membership in the county society when such exists as a prerequisite to membership in the state and the American Medical Association. This ruling dropped, at least temporarily, from the rolls of the Association a considerable number of physicians who had long been on the roster from state or local bodies which, by the laws then existing, were in affiliation with the National Association. While this action may have seemed unnecessary and unjust to these members (among whom were many of the most loyal and faithful supporters of the national body) for the common good, they should yield to the opinion of the majority, since calm reflection must convince any reasonable mind that one of the wisest steps the Association ever took was when it made the county medical organizations the basis of membership in the national body. There will hereafter be excluded from

membership that fortunately small, but none the less existing group of unworthy members of our profession who, on account of the clumsy rules which formerly prevailed, obtained a place on the roster of the American Medical Association.

To the date of the reorganization in June, 1901, the roster of this Association was so inaccurate and unsatisfactory that the secretary and president-elect undertook the difficult task of obtaining a correct list of members. While one might infer that each organized state and territorial association could, from its records, furnish at short notice the names of all eligible to membership in the American Medical Association, in only a very small proportion of these subordinate bodies was a reliable list available. It then became necessary to direct a circular letter, state by state, to every name on the roster then existing, asking for the necessary information. Since, for final confirmation, these names must be referred back to the subordinate organizations in which membership is claimed, it will be seen that some time must elapse before the completion of a perfectly reliable list. The lack of business-like methods with which our profession is charged is in a manner sustained by this admission, and it emphasizes the necessity of a thorough reorganization of all the societies in affiliation with the national body, upon practically a uniform plan.

A UNIFORM STANDARD FOR ALL STATES.

Scarcely second in importance to a uniform scheme of reorganization is that of a uniform standard of requirements for the practice of medicine in the various states. It is of vital interest to the welfare of the profession that the question of reciprocity or interstate comity should be settled so that without any sacrifice of the very highest requirements, a physician in practice in one state, having gone before a competent board, upon change of residence might be permitted to practice without being subjected to a second state examination, in the place of his adoption. The House of Delegates will, without doubt, act upon this matter at this session.

THE SECTIONS.

Referring to the subdivisions of the scientific work of the Association, Article V of the Constitution empowers the House of Delegates "to authorize new sections which may from time to time be organized, as the necessity for their existence arises." With increasing membership and the consequent larger attendance, it may be imperative in the future to create new sections, but this should be done only after careful consideration, and not until it is demonstrated that the material of high scientific value offered to the twelve sections now existing is more than can be utilized in the time allotted for the meetings.

The by-laws require every member to register in one of the sections, and it would be well to limit each reader to a single paper before the section chosen. The Association should insist that the officers of sections exercise a most rigid scrutiny of the papers referred to them. If we are to achieve our high purpose, if we wish to attract to our organization the great bulk of the better element of the medical profession, we must present through our sections, papers which demonstrate not only the high scientific attainment of the author, but the undoubted value of the material presented. We are judged by our works, and if, at our meetings, and in the publication of our papers in THE JOURNAL which carries them to all parts of the earth, any unworthy material finds a place, it can but reflect discredit upon the Association.

BRANCH ORGANIZATIONS.

Article VI of the new Constitution says: "The House of Delegates shall have authority to provide for and to create such branch organizations as may be deemed essential to the promotion of the welfare of the medical profession."

For the present I would not advise the establishment of these subdivisions, but ultimately it may be found necessary to divide the states and territories according to population and geographical position into district branches where meetings may be held at the convenience of the states represented, and without interference with the annual session of the National Association.

Let us hope that the various tri-state societies and the sectional organizations, such as the Southern Surgical and Gynecological Association, and the equally successful Mississippi Valley Medical Association, and others of like character, attracted by the high and unselfish aims of this organization, may appreciate the vital necessity of a united profession and vote themselves into district branches of the American Medical Association. Truly, in such a union there would be strength so potent, and influence so far reaching that we could safeguard, without doubt, the material interests of the profession, elevate still higher the standard of medical education, secure the enactment and enforcement of just and rigid medical laws, enlighten and direct public opinion in regard to the broad problems of state medicine, and demonstrate to the world the practical accomplishment of our science.

PERMANENT PLACES OF MEETING.

Article VII of the new Constitution, which deals with "Sessions and Meetings," refers the place and time for holding each annual session to the House of Delegates. They are also, under Article IX, empowered to appropriate funds for defraying the expenses of the annual meeting, as well as for enabling the standing committees to fulfill their respective duties.

I would recommend to the consideration of the Association the propriety of selecting in each of the geographical subdivisions of the United States, in which the sessions are successively held, some suitable location which has been found to be well adapted to the work of the organization, and to which we could return when the meeting is again to be held in that section of the country. As a scientific body intent upon fostering the growth and diffusion of medical knowledge, it is of vital importance to avoid in the selection of our place of meeting everything that could detract from the closest attention to the scientific programme. The smaller cities with ample hotel accommodations and halls conveniently located, have always yielded a larger attendance before the sections, and consequently a greater benefit to our members than the cities of larger size with their multitude of distractions. Moreover, it seems scarcely in accord with the dignity of this great body to require through its committee of arrangements that the physicians of the state and place selected for the convention should be held responsible for the expenses of that meeting. Every suggestion of commercialism should be avoided, and this prosperous organization should assume the entire responsibility and management of these annual sessions.

THE COMMITTEE ON MEDICAL LEGISLATION.

One of the most important duties imposed upon the House of Delegates is the selection of those who conduct its business affairs. In the past, the Association has

shown a keen discernment in securing for its trustees and standing committees men, not only of executive ability, but held in high esteem as representatives of a profession, which, according to the Code of Ethics, "should be temperate in all things, and which requires greater purity of character and a higher standard of moral excellence than any other calling."

You will in the regular order of business hear the reports of your five standing committees, and I am called upon to speak of but one, viz.: The Committee on Medical Legislation which the by-laws adopted in June of 1901 directs to be appointed by the president, and to consist of one delegate from each state. In accordance with this requirement I mailed to the president of each state and territorial organization in affiliation with the American Medical Association a letter asking him to nominate one member for this committee. To all replies to this letter the name of the delegate was sent to the chairman of the National Committee on Medical Legislation, Dr. H. L. E. Johnson, Washington, D. C. It will be remembered that at the session in St. Paul in 1901, the Association ruled that the National Committee on Medical Legislation, consisting of Dr. H. L. E. Johnson, Washington City; Dr. William H. Welch, Baltimore, and Dr. W. L. Rodman, Philadelphia, should be continued until the meeting in June, 1902, and should have the same power to act in the interest of the Association that they had previously enjoyed. All the legislative affairs of the Association I have referred to this committee at Washington, and have authorized them to call the full committee on medical legislation for consultation, advice or aid whenever their services might be required.

THE UNITED STATES HEALTH SERVICE.

In his message to Congress, December, 1901, the President recommended the establishment of a Department of Commerce and Industries. In its passage through the Senate the name was changed to that of Commerce and Labor. Before the national legislature at the same time was a bill known as the Perkins-Hepburn Bill to increase the efficiency and to change the name of the United States Marine-Hospital Service to that of the United States Health Service, transferring this from the Treasury to the new department.

The American Medical Association has on several occasions expressed its desire for the establishment of a Department of Public Health, either as a separate department of the Government, or as one of the important bureaus of a department. Probably on account of a lack of thorough organization and coöperation, it has not been able to obtain this important recognition for the medical profession. In view of these repeated failures it would seem advantageous to the scheme of establishing ultimately a Department of Public Health that the Perkins Bill should become a law, because the United States Marine-Hospital Service could then with more propriety be removed from the new Department of Commerce and Labor, into a separate and independent department. This department should be in charge of a medical officer to direct our foreign and insular quarantine, interstate quarantine, the medical supervision of epidemics, and in fact, all matters pertaining to the general health of any group of states, or of the entire country.

The work of this officer and bureau can only be carried out with success by the earnest coöperation of the health officers of the various localities and states, and of the advisory board for the hygienic laboratory provided for in the Perkins-Hepburn Bill, for the national and local authorities acting in harmony would be better able to prevent the importation of disease, and to stamp out epidemics which may occur despite the greatest vigilance, and this with the minimum disturbance of the resident public, and of the commercial interests of more remote sections.

THE ARMY MEDICAL DEPARTMENT.

As the representative organization of the medical profession of the United States, it is our duty to coöperate with the medical corps of the Army in the effort to procure legislation which will not only uphold the rights and dignity of the medical officers in the public service, but will give better protection to the health and lives of our troops.

The status of the Medical Department of the United States Army is fairly stated in a circular issued by the medical officers stationed in the Philippines, in which they claim that the present condition of affairs "is regarded as a menace to the efficiency of the medical department, as it is felt to be unfair and unjust." In no other staff department is promotion so slow as in the medical department. It is graded for rank, promotion and pay below every other staff department of the Army, and, with the exception of second lieutenant, is graded below the line. A medical officer, under the provisions of the present law, to obtain a colonelcy must pass through three times as many files as an officer of the Quartermaster's, Subsistence or Pay departments; through more than twice as many files as an officer of the Engineers' or Ordinance departments, and more than one and one-half times as many as an officer of the signal corps. Officers of the line, having attained the rank of major, have to pass through but four files to obtain the rank of colonel, while the medical officers have to pass through nine files. All these facts are fully appreciated by the younger physicians of our country, and by the volunteer and contract medical officers, hundreds of whom are now serving with troops and are declining to become candidates for a position offering such an unpromising career and so little in the line of promotion and emolument.

The Secretary of War has been officially informed by the Surgeon-General that the number of available medical officers is being rapidly diminished, and he anticipates he will soon be unable to supply the demand for medical officers to replace those constantly returning from the Philippines, unless the prohibition placed by the Secretary of War upon the appointment of additional contract surgeons is removed. He says: "The service would no doubt be more attractive to well-educated physicians if the prospects for promotion were better, and I respectfully commend that Congress be asked at the present session to add to the medical corps of the Army, two colonels, six lieutenant-colonels and twenty-five majors. This would give thirty-three additional vacancies and would furnish an incentive to volunteer medical officers and contract surgeons now in service to seek admission to the regular army. I would also recommend that the age limit for volunteer surgeons and contract surgeons who have rendered satisfactory service for two years or more be raised to thirty-six years."

No one who has carefully studied the subject can but conclude that under the statutes now in force many lives have been sacrificed and much suffering has resulted from lack of thorough coöperation between the officer in command and his chief surgeon, and without doubt it would be to the interest of the service if medical

officers were always consulted with regard to the location of camps and military posts for the purpose of getting expert opinion upon sanitary questions.

In order to impress upon commanding officers the importance of military hygiene, and the greater necessity for this coöperation with the medical corps of the Army, the Surgeon-General has insisted that there should be established at the Military Academy at West Point a course of instruction on military hygiene.

It is the duty of this Association to lend its best efforts to the Surgeon-General, a former president of the American Medical Association, and one not only in a position to suggest the legislation which would best serve the interests of the Army, but one whom we know to be zealous of the interests, rights and dignity of the medical officers of the War Department.

VIVISECTION—SMALLPOX.

The committee to whom was entrusted the question of vivisection has been diligent, and it would seem successful, in its efforts to prevent unwise and injurious restrictions upon this important method of research.

The wide dissemination of the contagion of smallpox in the United States within the last few years demands the most earnest attention of the medical profession. Such ignorance or indifference to the immunizing power of vaccination is a matter of surprise in an advanced stage of civilization and, while laws for compulsory vaccination would without doubt be to the best interests of the whole people, it seems so contrary to the spirit of our institutions as to be impolitic as well as impracticable. It falls upon us as physicians to labor unceasingly to impress upon the communities in which we reside the necessity and safety of this immunizing process.

THE MEDICAL PROFESSION NOT WHAT IT SHOULD BE.

We will be wise if, from time to time, we make a critical analysis of our past, realize exactly what we are doing, and upon this, base such conduct as will assure to our successors a more satisfactory condition of our profession, and a higher achievement of this Association. Being human we are too apt to shut our eyes to unpleasant truths; to exaggerate the value and the importance of our own performances, and to think that what we have been taught to believe, or what we wish to believe is right and unchangeable. Let us ask ourselves plainly: Is the medical profession of the United States what it should be? Has it won the influential position to which it should aspire? Has it gained the power to secure just and proper legislation? Has it lived up to its obligations, and has the American Medical Association, which claims to represent one hundred and twenty thousand regular practitioners of medicine in the United States, fulfilled its mission? How many of us after due reflection can consistently answer these questions other than by saying plainly and regretfully—No. And wherein lies our weakness? To say we are part of a young and scarcely organized country; that our profession is widely dispersed over vast regions so remote from each other that contact and coöperation are difficult will not entirely satisfy the fairly critical mind. Such excuses might have been sufficient at an earlier date, but not now. To say that, despite these and other embarrassments, we of the United States have given to mankind the unequaled boon of ether anesthesia; that, through the achievements of members of our profession and of this Association medical and surgical science has been greatly enriched; that great specialties recognized the world over have been developed; that operations bold and original have been established beyond controversy; and that by reason of these various contributions to the science and art of surgery and of medicine millions of lives have already been saved, together with the merciful mitigation of suffering which all this implies. While a repetition of this may flatter our vanity, it will not wholly satisfy us when in honest purpose we realize how great are our shortcomings.

It is a fact painful to acknowledge that of the three so-called learned professions, the ministry, law, and medicine, ours is accorded the inferior position, and we who day in and out, in every home of the land, are close in the personal friendship of our patients, respected and loved as individuals, are incapable of wielding by organization and discipline the powerful influence of a united profession aiming at a high and honorable purpose. And what have been the results of this house divided against itself? Witness the snail-like progress which marked the various steps in securing our laws for elevating the standard of requirements in medical education and for medical practice: Witness the opposition to our efforts in securing better sanitary regulations, and in the struggle to protect the public from the horde of uneducated or misguided persons who, under the guise of Christian Science, Osteopathy, and other schisms, insist upon being permitted to take charge of and treat human beings suffering from disease without submitting themselves to the state examination legally required of us.

THE NECESSITY OF A BETTER SYSTEM OF EDUCATION AND OF A MORE THOROUGH ORGANIZATION.

There are, in my opinion, two principal causes of this evident weakness of the profession. First: The insufficient methods of medical education which have prevailed for the greater part of the first century of our national existence. Second: The lack of organization.

The Code of this Association says: "Those admitted into our ranks should found their expectations of practice upon the extent of their qualifications." We stand committed as the champion of higher medical education and the elevation of the standard of requirements applicable not only to the entrance examination, but to a rigid examination before the degree is received, as well as by the state before permission to practice is granted. To this rigid examination this Association, by its rules of conduct, demands another important essential. The highest order of learning, the greatest amount of skill may not make one an honor to our calling for "there is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his patients and his profession."

THE CODE OF ETHICS.

The American Medical Association is the sponsor for organized medicine in the United States, and failure to accomplish this end implies the failure of this Association. We must not fail, nor will we, unless we falter in carrying out the plan of reorganization in the liberal and progressive spirit which characterized the session of 1901. It is our plain duty to endeavor to bring about the adoption by the various constituent bodies of a practically uniform constitution and by-laws for each county, and for each state, modified only as the local conditions may require, and all governed by the same rules of conduct. These rules, as at present given in the Code of Ethics, adopted many years ago by this Association, should be also a subject of serious consideration at this time, for we can not claim consistency or be logical in

argument until there is but one code for the national Association and for all of the state organizations represented in the national body. This, as you well know, does not now prevail. Some years ago there lived and labored among us for the good of mankind and the honor of the profession a man whose genius was of the highest order, and whose fame carried the name of American surgery throughout the civilized world. He was one of those fearless pioneers in science who found his place ever on the frontier clearing the way for those who were to follow. In 1876, at the meeting of the American Medical Association, in Philadelphia, Dr. J. Marion Sims, in his presidential address, referring to the Code of Ethics, says: "The time will come when your organic laws, like the Constitution of our country, will require modifications and amendments to suit a higher intelligence, a broader education and a greater destiny." In my opinion, the time has come when we can not absolve ourselves from the responsibility of doing away with the inconsistencies for which we may now be properly criticised.

Such have been the changes in the statutes of a majority of the states since the Code was adopted by the respected founders of this Association that we find it insisting upon conduct on the part of our members which is contrary to the laws of the states in which they reside. For instance, one section forbids a member of the regular profession to act upon a board of examiners which has to pass upon the legal qualifications of persons not graduates of regular medical colleges, while in thirty-eight of the states represented here, the civil statutes require these boards which are composed in great part of members of the Association to examine, pass upon and sign certificates or licenses to practice of Homeopaths, Eclectics, and other subdivisions of medical practice. In six of the states, including the District of Columbia, the law requires three separate examining boards. In Mississippi, North Carolina and South Carolina, the examining boards are entirely composed of regular physicians, and in one of these states (Mississippi) while none but regulars are allowed on the board, the law explicitly says: "Distinction shall not be made between applicants because of the different systems or schools of practice that may be chosen." In almost all the states and territories regular physicians are compelled by the laws of the state in which they reside to disobey the injunctions of this section of the Code of Ethics.

A modification of this and other sections of the Code must be a part of the liberal plan of reorganization which we have essayed.

In conclusion, I ask this Association to stand for more than the healing art. To labor for the alleviation of suffering and for the restoration of health is a noble avocation, but to teach our fellows how to avoid disaster is a prouder privilege and a higher duty. We should be teachers of men. How better can we protect the public from disease in all its various forms and insidious processes than by perfecting in every county and in every community an organization which shall be ever watchful and insistent upon obedience to the laws relating to the public health.

Death of Torok.—G. von Török died at Vienna, May 20, from the results of a professional infection. He was in his fifty-third year and had been at the head of several Vienna military or civil hospitals in turn. His last work was on the necessity of treating severe cases of tetanus with injections of antitoxin not only under the skin, but directly into the brain and spinal cord.

Orations.

THE RELATION OF MEDICAL SCIENCE TO COMMERCE.

ORATION IN MEDICINE, DELIVERED AT THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, HELD AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

FRANK BILLINGS, M.S., M.D.
CHICAGO.

I have been informed that there is no rule of the Association which fixes the subject of this address. I hope I may be pardoned when I depart from the custom which my predecessors have usually followed when they confined the subject of the address to the progress of medicine during the year just past.

We live in a period of the greatest activity of the history of the world. Modern inventions annihilate time and distance. Electricity and steam approximate the most distant parts of the civilized globe. Vast amounts of capital are invested in electrical, steam and other related interests.

Large commercial enterprises are carried on or launched into new fields, which require money, the employment of the brightest intellects and skilled and common labor.

Competition is great in all the affairs of men. The struggle for supremacy between nations and between men was never so fiercely contended as now. The world is richer than ever before. Great individual fortunes, the result of the efforts of the few years of a single span of life, are seen everywhere. The wage of the laborer in our country is larger than ever before and he may command the necessaries as well as many of the comforts of life.

This modern restless activity, with its nerve-racking; the evil results of a luxurious life; the moral obliquity which it may breed, as well as many other conditions which affect the health of individuals, while of interest to medicine, do not concern us in the consideration of the broader subject of this paper.

THE BROADER APPLICATION OF MEDICAL SCIENCES.

Medical science is interested in and is of greater importance to the world than ever before, in protecting individuals, states and nations from infectious diseases, which are rendered more dangerous than formerly because of a denser population, increased facilities of communication between the peoples of the earth, by travel and by national and international interchange of food and other commercial products.

Medical science, too, is closely identified with the vast monied interests of the merchant marine and of national and international commerce. Quarantine against the spread of infectious disease is applied wisely or foolishly in direct ratio to our knowledge or ignorance of the cause, the means of transmission and the evolution of disease. So, too, medicine has to do with the knowledge which will enable man to escape from and finally remove the conditions which cause infection and which render a country uninhabitable to civilized man.

Medical science must safeguard man against infection and intoxication from parasitic diseases of animals used for food and from contaminated and adulterated food and drink. Not only from a humanitarian standpoint is medical science related to commercial pursuits, but the sciences related to medicine have done much to preserve animals used for food and to protect many agricultural interests from disease and destruction.

One may say, I think, that in no other pursuit which engages the serious attention of men are there as many earnest, unselfish and philanthropic workers as there are to-day in the broad field of medicine.

In the various departments of science related to medicine one finds educated, skilled, energetic, earnest workers after truth, willing to sacrifice home, friends, health and life for the advancement of the science which has for its primary object the conservation and prolongation of human life. Pecuniary reward for them is never large and never commensurate with the character of the work.

Furthermore, great and astounding as are the modern commercial inventions, the progress made in medical science during the last twenty years is equally great.

Is modern medicine prepared to meet the demands of modern progress concerning the questions which interest humanity and commerce? Let us answer the question by a brief retrospect of the progress of medicine and by a statement of the present status of medical science.

FIRST APPLICATION OF PHYSICAL SCIENCES TO MEDICINE.

From the latter part of the eighteenth to the beginning of the last quarter of the nineteenth century the science of medicine developed steadily upon a rational physical basis. Jenner's discovery of the protection of the human race against variola by vaccination with cow-pox, illuminates with noonday splendor an era otherwise gloomy with its hypotheses, theories and superstitions concerning disease.

This single brilliant achievement of the end of the eighteenth century was the beginning of the evolution in medical science which made the nineteenth century notable. The application early in the nineteenth century of physics, of physiology, of pathologic anatomy and of chemistry, to the study of disease, developed a more exact knowledge than before existed. To Auenbrugger that early period owes much through the discovery of methods of physical examination which were slowly developed and perfected by Corvisart, Laennec, Piorry, Skoda, Wintrich, Traube, Louis, Cheyne Stokes, Graves, Corrigan, Flint, Scudamore and others. Pathologic anatomy made wonderful strides under the labors of Virchow, Rokitansky, Arno'd, Stilling and their students. Physiology was developed by the labors of Johannes Müller, Brücke, Helmholtz, Trousseau, Vierordt, Foster, Carpenter, Magendie, and their disciples; and the fuller knowledge embraced in physiologic chemistry was added to the rapidly-broadening field of medicine by Hoppe-Seyler, Schwann, Stricker, Prout, Liebig and others.

BACTERIOLOGY.

The development of the microscope during the second and third quarters of the past century added a mighty weapon to the armamentarium of the physicist. The microscope was an aid to the investigators of pathologic anatomy, of physiology, of chemic physiology and of other subjects, and it was the one necessary means by which the teeming world of bacteria was made visible. This discovery and the knowledge which has come from a study of these infinite and yet often mighty beings has revolutionized medicine.

It was Pasteur's brilliant studies of the infective microbes of air which led to the discovery of the source of contamination of wounds and which made it possible for Lister to evolve a method of protection of wounds from air infection. The aseptic surgery of to-day is but the evolution of Listerism which had its basis of existence in the discoveries of Pasteur. With the microscope Pasteur rid the world of the superstition of spontaneous generation. He proved the infectiousness of dust-borne air through the microbes it carried. He blazed the way for others in the study of bacteria as agents of putrefaction, fermentation and of pathologic infection in animals.

Bacteriology became an exact science with the discovery of Robert Koch of cultural methods which made differentiation of bacteria possible. The causative relation of bacteria to all infective processes was practically proved by the laws promulgated by Koch. In twenty years the bacterial cause of tuberculosis, typhoid fever, cholera, diphtheria, pneumonia, pyogenic processes, erysipelas, gonorrhea, epidemic meningitis, epidemic dysentery, the plague, charbon, glanders, tetanus, influenza, and lepra has been proved.

PARASITES.

The discovery of the hematozoön of malaria by Laveran; the recognition of the ameba of dysentery by Loesch; of the ray fungi and especially the actinomyces as infective agents in the lower animals and in man, and the more exact knowledge of other animal parasites infecting man and animals, which the microscope has made clear, have been as epoch-making in parasitology as the discoveries of Pasteur and Koch in bacteriology.

The recognition of the relation of bacteria, protozoa and animal parasites to infective disease has been the means of a more exact knowledge of the clinical phenomena of disease, of morbid anatomy, of physiology and of physiologic chemistry than would have been possible without it.

TRANSMISSION OF INFECTION.

The knowledge of the cause has led to a study of the life-history of infective organisms outside of as well as in the animal body. The mode of propagation, the means of transmission of infective micro-organism, by fomites and other agents, has become known. The rôle which insects which infest animals play as definitive or intermediate hosts, has been studied and proved. The discovery of Manson of the transmission of *Filaria sanguinis hominis* by the mosquito was of vast importance as a suggestion of the mosquito as a definitive host in malaria. The investigations of Manson, Ross, Celli, Grassi, Dionise, Marchiafava, Bignami, Koch and others have made our knowledge of malaria exact. With the microscope we may now not only recognize malaria and differentiate it from the other infective fevers, but we may also at the same time recognize by an examination of the blood the type of malarial infection and foretell its course. Not only may we recognize the disease definitely and apply the drug treatment more rationally, but the knowledge of the means of its transmission from man to man enables us to apply preventive measures which, as we shall see later, are of the greatest importance from a commercial as well as from a humanitarian point of view. The recognition of the rôle of the mosquito in malaria has been, furthermore, a stimulus to the study of the same insect in relation to other infections.

The brilliant research work of our own Reed and Carroll in 1900 in Cuba, by which they proved that the mosquito of the genus stegomya is the sole means of the transmission of yellow fever from man to man is of great importance as a scientific fact. The influence of this discovery upon mankind as a prophylactic against a disease which has killed multitudes and also from a monetary point of view, in reference to commercial pursuits, is not appreciated at this time as it should be

Hardly less important is the fact that the *Bacillus pestis* may infect fleas and these in turn infect rats, mice and man. It is important, too, to know that pests like the house fly may be carriers of infective bacteria from refuse filth to our kitchens and tables and contaminate food and thus infect us with typhoid fever, cholera and perhaps other diseases which are propagated by filth.

The study of bacteria in the laboratory and in the blood tissues of infected animals has led to the discovery of the means by which bacteria disturb the animal economy and produce phenomena expressive of disease. The fact that the blood and tissues of infected animals contained a toxin which could also be isolated from pure bacterial cultures in the laboratory and that this toxin when introduced into an animal was capable of exciting the same phenomena of disease as the bacteria themselves, was positive proof that bacteria excite disease phenomena by means of a toxin which they form. The elaboration of antitoxins in the body of the infected animal was also promptly recognized and served to explain not only the self-limitation of many of the infective diseases, but it also helped us to understand the immunity which one attack of some of the bacterial diseases affords.

PROTECTIVE INOCULATION.

Long before bacterial toxins were recognized as the cause of disease phenomena, Pasteur established the principle of protective inoculation with bacteria of lessened virulence, which was brought about by attenuation of the bacteria by a modification of cultural methods and also by serial inoculation of certain lower animals. This he successfully applied to charbon in sheep and cattle and to chicken cholera. In both of these diseases the bacteria were known and the problems of attenuation could be carried on in the laboratory by direct study of the bacteria before inoculation and afterward when they were recovered from the bodies of the animals experimented on.

His final life's work was no less important, in firmly fixing the immunizing influence of attenuated bacterial inoculation in rabies. Here the discovery of the infecting bacterium escaped every known means of recognition by examination of the tissues and blood of the infected animals microscopically and culturally. Apparently there are pathogenic bacteria which we do not know because we have not yet recognized the proper culture material for the successful artificial cultivation of them, nor have we discovered the tinctorial reaction which they may possess and, finally, it is not improbable that they may be infinitely smaller than other bacteria and, therefore, more difficult to recognize.

Pasteur recognized the fact that in hydrophobia the brain and other nervous tissue of an infected animal are capable, when inoculated into another animal's brain, of producing the disease. That the infected brain, used for inoculating animals, contained the bacteria, which caused the disease, was proved by the fact that a stage of incubation occurred in the inoculated animal and that a series of animals were successfully inoculated consecutively from the first. Pasteur then successfully attenuated the unknown bacterium of hydrophobia present in the nervous tissues of an inoculated animal by desiccation of the nervous tissue in a sterile apparatus by methods too well known to repeat. Nor is it necessary to occupy time in repeating the well-known methods pursued by Pasteur and his pupils in the use of the graduated doses of attenuated bacteria contained in the nerve tissues in the prophylactic treatment of rabies. To Pasteur, therefore, do we owe the scientific recognition of the principle of protective inoculation.

It is now a well-known fact, however, that inoculation against disease was practiced by the Chinese 1000 years ago. They inoculated the healthy with smallpox as a protection against the disease. Variolization was also practiced in Europe in the seventeenth and eighteenth centuries. We read that in 1718 Lady Montague caused a son to be inoculated with variola in Italy and that two years later her daughter was inoculated in England. The practice was followed in Ireland long after the successful establishment of vaccine as a protection against variola. Inoculation against syphilis, or syphilization, was also practiced in Europe during the nineteenth century.

To Jenner, however, do we owe the first example of the protective inoculation by means of an attenuated virus. This attenuation we now know was established by the accidental inoculation of milch cows with smallpox, producing a modified disease, vaccinia. That vaccinia, produced in man by inoculation direct from the cow, would protect against smallpox was proved when in 1798 Jenner successfully vaccinated, direct from the cow, the five-year-old lad William Summers.

The thousands of successful vaccinations which have since been performed and the thousands of lives which have been saved by vaccination are proof of its validity and utility. The immunity established by protective inoculation is apparently the same as that induced by an unmodified attack of variola.

SERUM THERAPY.

When chemistry had revealed the nature of bacterial poisons and experiments established their relation to the phenomena of disease, it was proved that substances were formed in artificial culture media and in the blood and tissues of infected animals which had the power to neutralize the effect of the bacterial poison in other animals infected with the same organism. Further investigation showed that an animal inoculated with the laboratory preparation of antitoxin was protected against the disease.

Furthermore, it was found that the blood serum of an animal inoculated with bacteria in a non-fatal and repeated dose contained an antitoxin. When the blood serum of the infected animal was injected into a healthy animal, the latter was protected against the original disease.

Antitoxin was, therefore, proved to be formed in artificial media of bacterial cultures and in the bodies of infected animals. When the antitoxin thus formed was injected into an animal it had the power to protect it against the particular bacterial infection or, if given subsequent to the infection of the animal, to mitigate the severity of the disease or to entirely check it.

Thus, by Koch and his students, was serum therapy established as a principle. Upon this principle there has been established and given to the world the antidiptheritic serum of Behring and of Roux.

A curative or immunizing serum has been developed for Asiatic cholera, tetanus, erysipelas, plague, epidemic dysentery, streptococcus infection and other diseases. While the serum treatment has not proved successful in all the diseases in which it has been used, it has been so successful in some—diphtheria, for instance—as to firmly establish the principle of serum therapy.

INFLUENCE OF BACTERIOLOGY UPON PRACTICAL MEDICINE AND SURGERY.

These practical results in specific prophylactic and curative therapy are but a part, however, of the influ-

ence which bacteriology has had upon medicine. The stimulus, given by bacteriology to the study of pathologic anatomy, physiologic chemistry, clinical phenomena and of physical and chemical changes of the fluids and tissues of the body, has resulted in a knowledge so comprehensive that medical science has been revolutionized within the last twenty years. Speculative theories and hypotheses have given place to facts based upon sound principles proved by experiment and clinical observation.

Bacteriology made possible the comprehension of perfect cleanliness and enables the surgeon to invade every part of the body without fear of infection and has saved thousands of lives which twenty-five years ago perished miserably as the result of disease at that time inoperable, or the result of infection from contact with the surgeon. By means of cleanliness and skill, induced by a broader experience, the surgeon has been able to add to our knowledge information of great value which could have been obtained probably in no other way. He has been able to study disease in the living body and show the relation of a disease process to infection. He has thus been able to clear away many of the misconceptions of symptomatology and diagnosis, especially in disease of the abdominal organs.

Bacteriology has stimulated laboratory clinical diagnosis. Bacterial reaction to sera and blood cultural tests are of the greatest aid to diagnosis. Clinical research work has command of an armamentarium consisting of a knowledge of pathologic anatomy, of physiology, of bacteriology, of chemic physiology and of physics, which allows of a precision in diagnosis never before at the command of the physician.

From the foregoing it seems sufficiently demonstrated that to-day medical science possesses a knowledge so exact that we may answer definitely the question of our relation to the commercial affairs of the world. Infectious diseases which affect agricultural interests, like swine plague, rind pest, fowl cholera, glanders, tuberculosis, actinomycosis, trichinosis, and many of the parasitic diseases of plants and of animals have been studied by scientists with most definite results.

PREVENTION OF INFECTION.

To-day no sane man believes in spontaneous generation. The presence of an infective disease either bacterial, protozoic, parasitic or fungous, means the recognition of progenitors in the near environment of the infected organism. In practically every one of the diseases of animals above named the scientific investigator has already discovered the nature of the infecting agent, knows its life-history, what conditions are most necessary for its propagation and multiplication and what will remove and annihilate so dangerous an enemy.

Our Department of Agriculture, and especially the Department of Animal Industries, has done much to place comparative medicine on a scientific basis. Briefly stated, there is not a fungous-parasitic, animal-parasitic, protozoic or bacterial disease of the lower animals which can not, with our present knowledge, be stamped out for all time.

Why do the acute epidemic infections attack the swine, fowl, and cattle of the agriculturist? Because the causative germ is allowed to live and multiply after a former epidemic, or, it is transplanted from place to place by infected animals or by fomites. All of these acute diseases of the lower animals are preventable. One has but to read of the labors and investigations of Pasteur, in relation to charbon, to the silkworm disease and to fowl cholera to know what indifferent careless methods may do to prolong and propagate an infection. On the other hand, proper precautions as to the destruction by fire of the infected bodies of animals and plants, the application of cleanliness through the use of abundant pure water, pure food, air and sunlight would extinguish an epidemic.

This may imply the loss of infected property by the individual, the municipality, the state or the national government, but fall the loss where it may, it is often necessary to destroy absolutely the infected organism that the greater commercial interests as well as the health of the people may be preserved. For example, actinomycosis of cattle, trichinosis of swine, tuberculosis of cattle, may be absolutely controlled and finally obliterated by proper sanitary measures. The expense of such an undertaking would be relatively great, but under the direction of scientists it can be done. Pasteur, with the aid of the government of France, abolished swine plague, charbon, silkworm disease and other conditions harmful to the agricultural interests, with the result that millions of francs were saved to individuals, to corporations and to the government.

The same happy result would occur here and in addition the health of our people would be protected against the possible infection with tuberculosis, actinomycosis, trichinosis and intoxication from other infected animal foods.

SMALLPOX.

But what of the epidemic scourges of the earth, smallpox, yellow fever, cholera and the plague? No rational individual can for a moment doubt the protective influence of bovine vaccination against smallpox. Let one but look up the statistics of the mortality of this disease in the anti-vaccination period and he will become convinced of the utility of protective vaccination. In London the annual mortality from smallpox from 1660 to 1810 per million of the population was 2040 to 5020, while with vaccination, not adequate, however, the death rate per million was from

1831 to 1835	830
1838 to 1853	513
1854 to 1871	388
1872 to 1882	262
1883 to 1892, only	73

In Germany where variola had decimated the population in the prevaccination period, thorough vaccination has practically stamped out the disease. Compulsory vaccination properly enforced would effectually eradicate the disease and would free commerce of the losses due to quarantine regulations. The question of individual rights, especially under a republican form of government, is debatable when one considers that science has proved the efficacy and utility of protective vaccination against variola; that with modern methods the process is free from the danger of inoculation with any other disease; that vaccinia is practically a harmless disease and, finally, that an individual right may become an evil when the practice of it subjects others to unnecessary risk of health, life and property.

Medical science, therefore, possesses the knowledge to rid the earth of variola. From a humanitarian point of view, this knowledge is priceless. Still, let one but compute the sum saved to the nations of the earth by vaccination, estimating each life saved at $5000, the usual valuation placed upon human life by statute. Great as would be this sum, it is many times less than that saved to the commercial interests of the world by the control of the disease which even inadequate vaccination has afforded. Think for a moment of the loss to

commercial interests by quarantine and other restrictive measures, in the event of an epidemic of variola, without protection from vaccination.

THE PLAGUE.

The plague, the Black Death, which was first recognized in Europe in the year 543 as the *Peste Justinenne*,[1] became pandemic in the fourteenth century and 24,000,000 people are said to have died of it. In 1655, London alone lost 70,000 people from the plague. It disappeared from Europe about 1720. It continued, however, in Egypt, Asia and other Eastern countries in small foci, occasionally occurring as severe local epidemics. In 1830, 60,000 people died of the pest in Bagdad. During the remainder of the nineteenth century it appeared sporadically in Asia, Turkey, Tripoli, Persia and other Asiatic countries. In 1891 it reappeared in epidemic form in middle China. From that date to the present time it spread over China, reaching Canton in 1894, Hong Kong in epidemic form in 1896, and in Bombay the same year. It appeared in Oporto, Spain, in 1899; in Glasgow in 1900 and in San Francisco in 1901, not to mention sporadic cases elsewhere in seaports of Europe and Central and South America.

In 1894 Dr. Yersin, Director of the Pasteur Institute at Hong Kong, discovered the *Bacillus pestis*. He elaborated a serum which has since been used with success as a prophylactic and curative agent. Haffkine prepared a protective vaccine which has also proved successful as a protective inoculation. It has been used in hundreds of thousands of cases in India with no harmful results and is said to reduce the susceptibility at least 75 per cent. and the mortality about 90 per cent.[2]

The plague, the Black Death of the fourteenth century, still exists and rages with fearful mortality in communities which have no regard for hygienic surroundings. It is communicated to people through the abraided skin, or by flea bites, through the respiratory tract apparently by bacteria in dust-laden air and also through the alimentary tract by contaminated ingesta. Modern hygienic measures, which consist of perfect cleanliness, isolation, the destruction of vermin and the use of Haffkine's vaccine as a prophylactic and Yersin's curative serum, serve to control the disease. There can be no doubt that if sanitary authorities will take proper precautions to recognize the disease, proclaim its presence and then control it by the means which science has discovered, that the terrible scourge may be safely held in check and finally abolished from every civilized community.

The value to commerce of the discoveries of science in relation to the plague can not be computed. While the knowledge of its cause and prevention is exact, the impossibility of controlling the unsanitary conditions of the countries of the East and even of our own western world makes it necessary to continue the quarantine regulations which so often restrict commercial ends.

YELLOW FEVER.

The mortality from yellow fever in the United States during the last one hundred years, 1798-1897, has been about 80,665.[3] This gives an average annual mortality of 807. Several severe epidemics have occurred and it has prevailed extensively in smaller towns where the mortality records have not been kept. Hence the above figures do not represent the full annual death rate from the disease. Yellow fever has been the scourge of the West Indies, Central and South America, Mexico and of our Gulf States.

Recognized as an infective disease, indefatigable search has been made for the bacterial cause by many earnest workers. Apparently up to the present time the specific infective germ has not been found. Indeed, from a recent paper[4] by Reed and Carroll, it would seem that the bacterium must be infinitesimally small.

Although we do not know the specific bacterium of yellow fever, a most brilliant discovery has been made of the means of transmission of yellow fever by means of the mosquito (*Stegomyia fasciata*) by two of our countrymen:[5] Walter Reed, Surgeon U. S. A., and James Carroll, Contract Surgeon U. S. A. Twenty years ago Finley associated the transmission of yellow fever with the mosquito, but no proof of this was given until the epoch-making and decisive experiments of Reed and Carroll. Furthermore, these experimenters proved that fomites contaminated with the vomitus and discharges of yellow fever patients do not transmit the disease to man.

In Havana, Cuba, the sanitary authorities of the United States have attempted during the last year or more to test the fact of yellow fever transmission by the mosquito. To this end the city was made clean; the breeding places of mosquitoes in and about Havana were destroyed as far as possible and persons suffering from yellow fever were isolated and protected from the mosquito. Thus the number of mosquitoes were much diminished and care was taken that remaining mosquitos did not become infected by biting yellow fever patients. As a result yellow fever disappeared from Havana and for the first time in years no case had occurred up to May 1 of this year. The usual marine quarantine regulations of the United States restricting the non-immune travel from Cuba was postponed. Furthermore, the Congress of the United States will probably modify the quarantine regulations in reference to yellow fever to meet the more hopeful conditions which the researches of Reed and Carroll have established in relation to the definite transmission and control of the disease.

There can be no doubt of the practical value of this important discovery to mankind. Proper sanitary measures in reference to cleanliness, the destruction of mosquitoes and their breeding-places and proper precautions against the infection of the few undestroyed mosquitoes by isolation of every imported case of yellow fever will eradicate the disease from every civilized country.

MALARIA.

Malaria has not borne as important a relation to commercial communications between peoples as yellow fever and the plague. Nevertheless, it has had an enormous influence upon the health and prosperity of the inhabitants of certain regions where it is endemic and at times epidemic in its prevalence. The principles which prevail to induce malaria in a certain region is the existence of human malaria and of the mosquito of the genus *Anopheles*.

The mosquito is annoying but harmless until she becomes infected with malaria by biting a human being infected with the disease. Such an infected mosquito may inoculate all the people she subsequently stings. In this manner a region ordinarily free from malaria may become infected by the importation of a case of malaria from a distant point. It is also possible that

1. Ph. Hauser: La Peste dan les temps anciens, etc., Paris, 1900.

2. Pacific Med. Jour., January, 1901.

3. Obtained from the records through the kindness of Surgeon-General Walter Wyman, U. S. M.-H. S.

4. The Etiology of Yellow Fever, Am. Med., Feb. 22, 1902.

5. Experimental Yellow Fever, Trans. Assoc. Am. Phys., vol. xvi, 1901.

a mosquito infected with malaria could be transported by railroad or ship in the luggage or clothing a considerable distance and then sting and infect individuals in its new environment.

We have many examples of infection of people in localities usually free from malaria, through its introduction by means of imported laborers employed in the construction of railroads, canals, etc. Malaria was rarely found in Chicago until 1891 when the construction of the World's Fair buildings was commenced. Then it was attributed to the excavations and the turning of virgin soil. The construction of the Chicago Drainage Canal began at the same time and continued until 1900. During that period malaria was constantly present in Chicago and in 1898-9 was augmented by importation of infected soldiers from Cuba and other malarious regions. No one can doubt that malaria was imported in the persons of some of the foreign laborers employed in the above-named enterprises and that the previously innocent anopheles became infected and afterward inoculated many people who suffered from malaria at the period named.

The mortality of malaria in malarious districts with a considerable population is large. Thus Professor Celli[6] says that the mean mortality from malaria in Italy is about 15,000 victims annually, and that about 2,000,000 cases occur in Italy each year. As the mean duration of malaria is generally long, sometimes infecting the individual for years, the loss of labor and of production and the expense entailed in dealing with the disease, amounts to several millions of francs. Furthermore, Celli says that owing to malaria about 5,000,000 acres of land remain uncultivated with a resulting large economic loss. According to the very accurate calculations of Ricchi, the Adriatic Railway Company with 1400 kilometers of road and employing 6416 men, spend on account of malaria alone 1,050,000 francs a year. In the Italian Army in the twenty years from 1877 to 1897 there occurred more than 300,000 cases of malaria. Finally, Celli[6] says malaria annually costs Italy incalculable treasure.

Malaria is so widely disseminated over the world and the opportunity for continued infection of the mosquito so great that it seems almost hopeless to try to eradicate the disease. The principle upon which malaria may be fought has been suggested by science and has proved of value. This consists of the destruction of the mosquito and its breeding places. The prevention of the infection of the remaining mosquitoes by isolation of the malarious individual from the mosquito and the diminution of malarial material in man by an attempt to cure him with quinin and other anti-malarial remedies.

Experiment has already demonstrated that non-immune individuals may live safely in the most malarious districts, with adequate yet simple protection from the sting of the mosquito infected with malaria. Man thus protected against malaria may now explore, settle in and develop regions of the earth hitherto inaccessible because of the danger from the deadly tropical malaria.

This address would become too long were one to take up other infectious diseases, although in some of them the science of medicine has made such successful investigations that the knowledge of the cause, means of propagation and dissemination is exact.

TYPHOID FEVER.

I can not close without saying that if in typhoid fever we could employ, unembarrassed by the great cost of the necessary measures, the precautions which science affords to prevent water and food contamination, that the disease would be effectually abolished. The great cost of the measures necessary to stamp out typhoid fever would, however, be an economic measure, inasmuch as the immense value to the state, of the conservation of the labor of the thousands sick and the lives saved each year would more than compensate for the treasure spent.

VALUE OF MEDICAL SCIENCE NOT RECOGNIZED.

However much medical science has done for humanity and great as the value of the knowledge of infectious disease is to the commercial interests of the world, scientists have not, especially in our own country, received the recognition and financial aid from the state, from corporations or from wealthy individuals which they deserved.

MEDICAL SCIENCE SHOULD RECEIVE FINANCIAL SUPPORT.

Medical science should receive the moral and financial support of states and municipalities in the employment of the measures which science has proved to be efficacious in modifying, restricting and abolishing infectious disease. Wealthy corporations and individuals should establish institutes of original research in properly-constructed and equipped hospitals and laboratories. There the many earnest, indefatigable and conscientious medical investigators could make more perfect the knowledge we already possess of many of the infectious diseases and, unembarrassed by financial needs, could search for the cause, the means of transmission and the prevention and cure of the diseases of which we know but little.

Funds, too, should be created to support the cost of committees of scientific investigators in regions now dangerous to the white man. By such means the many plagues of the tropics would be investigated and conquered. Regions uninhabitable or dangerous to the Caucasian would become accessible to settlement and commercial intercourse. Civilization, humanity and commerce would be advanced and multiplied.

It is right, therefore, that medical science should demand of the monied interests of the world the recognition which, though long withheld, is her just due. This she asks, not that individuals may profit in either fame or fortune, but that she may the more readily rid the world of infectious diseases for the sake of humanity.

6. Malaria According to New Researches, 1900.

SUTURE OF HEART WOUNDS.

ORATION ON SURGERY, DELIVERED BEFORE THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

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THE RECORDED SUTURES OF THE HEART.

In 1896 three operations for the suture of wounds of the heart muscle were done. Two are recorded as having been done in 1897. Four are credited to 1898. In 1899 the heart was sutured eleven times, in 1900 three times, and in 1901 nine times, three of this last set being done in this country. This year two operations have thus far been reported. This makes a total of thirty-four operations in the six years following the first attempt to treat, by a simple surgical procedure, an organ usually supposed to be particularly vulnerable, in fact, so vulnerable that any interference, even for surgical purposes, might be followed by immediate fatal results.

There is more than enough material here for our consideration at this time, and I beg you to follow me in the necessarily brief discussion which I offer you.

In order to start with some knowledge of the results of these operations, before any discussion, in general or in detail, is attempted, a short review of them will be necessary.

REVIEW OF THESE CASES.

As regards the manner of wounding, all these cases, except two, were due to punctured or incised wounds, the two exceptions being bullet wounds. The particular injury to the heart was inflicted on the ventricles thirty-two times, the left ventricle being implicated seventeen times and the right thirteen times. In two cases only were auricles opened, once the right and once the left, and there are three cases in which my information is incomplete. In most of the cases where details are given the pleura is reported wounded, and usually there was a hemothorax, the collection representing, in large part, the overflow from the pericardium.

The practical questions which usually come to the mind of a surgeon in planning an operation to meet these conditions, relate to the method of exposure of the heart, the detail of the treatment of its particular condition, and the method of closing and dressing the wound of the operation.

In the cases reported the heart was reached variously, depending on the location of the original wound in the skin and the choice of the operator, but either a flap of all of the tissues of the thoracic wall was turned up, or a resection of two or more ribs was practiced. The particular detail is of no great moment provided that the heart is properly exposed. The special method of treating the heart wound is of interest for it involves the choice of suture material for a novel situation, the time at which the suture is introduced and tied with reference to the heart beat, and the depth of the stitch in the heart muscle. In our cases three operators are recorded as having used catgut, Fontan of Paris, Marion, and Launay; in all other instances where the suture material was specified silk was used, and in most cases the sutures were interrupted, though in a small number a continuous suture was practiced. It is of interest to note that these operators particularly avoided including the endocardium in the suture. One of them definitely reports introducing and tying the suture during diastole.

As regards the closure of the wounds—the tissues involved in the flaps or incisions were, of course, replaced: in seven instances drainage of the pericardium and pleura was practiced, and in four the pleura alone was drained. The other cases are said plainly to have been closed without drainage, or nothing is said of the matter at all.

RESULTS OF THESE CASES.

Now, of the total number of these cases five died on the operating table, of hemorrhage, and ten died very soon afterwards of the effects of hemorrhage or the shock of the operation; so that nearly half of the cases that survived the injury long enough to be subjected to operation died during or very shortly after that operation. The other group, nineteen in number, had various fortunes, but thirteen of them recovered and only six died. I think it is fair to stop a moment and consider these facts. Surely the fifteen who died of hemorrhage or shock with operation would probably have died of hemorrhage exactly the same without operation. No fatal traumatism is inflicted by exposing the heart; and stopping the hemorrhage from an incised or punctured wound in the ventricles is a simple matter when the heart is once exposed; indeed, pressure with the finger or a tampon will stop it temporarily. At all events the operation and suture did not add materially to the amount of blood lost and so can not be counted as having hastened the death from hemorrhage, and the average amount of shock I can not estimate. But I believe that it is fair to say that these patients had, from the first, practically no chance to recover, and that, if this had been known, the operations need not have been done—but I say this with full appreciation of the fact that the inevitable fatality could not have been definitely predicated in any case. Of the other nineteen, the comment is, plainly, that they had a chance to recover. In each of them the suture of the heart was a successful procedure; in not one instance was the fatal outcome due to a secondary hemorrhage. The six who died succumbed to the common matter of an infection, sequent to wound and operation. Of the thirteen who recovered four did so in spite of a concurrent infection. But the point is that of these thirty-four cases, fifteen had, really, but very slight expectation of benefit from the operation and died probably neither in spite of it nor because of it—nineteen had expectation of recovery from operation, and in thirteen that expectation was realized.

I do not wish you to think that I am trying to make these cases give a better percentage of recoveries than they really do. That percentage, as the whole list stands now, is about one-third. But if we wish to consider only the final success or failure of the suture of the heart muscle we must limit our inquiry to the cases in which this procedure was really tested, and then we see that the percentage of recoveries may be considered a little more than two-thirds.

SLOW ADVANCE IN HEART SURGERY.

The road to the heart is only two or three centimeters in a direct line, but it has taken surgery nearly 2400 years to travel it, for I take it that the operation of opening the chest for an empyema, which was known to Hippocrates, was a direct predecessor of the attempt to treat other thoracic viscera. It does not need to be said that during most of this time surgery stood still and that the advances were little by little. We all know that before the antiseptic and aseptic eras pleurotomy for empyema gave very terrible results, and there could be but scant encouragement to draw surgeons to fresh fields. However, more than a century ago (1798) Desault, with the logic and precision which still characterizes the French school, laid down the rules for opening the pericardium for an empyema situated in that sac, and anticipated much of the technic of to-day, and it took surgery ninety-eight years to pass from the pericardium to the epicardium, across a space that is such only potentially.

It is a little odd that surgeons have hesitated so long to go to the aid of the wounded heart in man. Physiologists for years have experimented on the hearts of animals selected from nearly all the species of the animal kingdom. The special references to this matter are not needed here, but it is germane to the subject to note that the tolerance of the mammalian heart for manipulation, and its persistence of action in spite of wounds and obstacles, have long been known.

The experience of the various operators has been, as might therefore have been expected, that the heart of man was no more resentful of intervention than were the hearts of other mammals, and that it not only could be

handled, and even partially lifted from the pericardium, but that its muscle could be sutured so as to close a wound, just as can be done with the skeletal muscles. However, in the case of the systemic muscles rest can usually be enforced, either completely or partially, during the process of healing, but this can not be done with the heart. Here comes the great difference between the heart muscle and the skeletal muscles, both as regards suture and the reparative process, the heart must continue to act for the whole of the time.

The question now centers, first, on the possibility of properly suturing, that is, placing a practical suture in the moving heart, and second, on the result of the healing process. The first question is one of only technical moment, for the work on animals has shown that it can be done, and the experience of those who have sutured the human heart has not disclosed any special difficulty in the procedure, but the matter and manner of the sutures are debatable. The general advice is that the sutures of muscle should be of silk and it has been most frequently used in the heart muscle, but three of the successful cases, the two of Fontan's and the one of Launay's, were sutured with catgut. Elsberg has advised, as the result of his experiments on rabbits and dogs, that the suture material should be silk, and that the suture be an interrupted one, and very superficially placed, believing that deep sutures will tear out while superficial ones will hold. He also advises that the suture be placed and tied during the diastole of the heart.

EXPERIMENTAL RESEARCH.

To discover, if I might, the exact value of these somewhat confused matters, I have exposed the hearts in eleven dogs, and made wounds of various sizes and in different directions in the left ventricle, limiting myself to that particular cavity as it was the one most frequently wounded. In each instance, except perhaps one, I verified the opening of the cavity of the ventricle by passing an instrument into it so as to get a free spurt of blood during one or two systoles. It was found that this verification was a practical necessity, for the nonpenetrating wound of the myocardium will give forth, during systole, a spurt so large that it could easily be confused with one from the cavity of the ventricle. These wounds were then sewed with ordinary commercial cumolized catgut; in some deep and superficial stitches were combined; in some very deep, so as to surely penetrate the endocardium, were used, and in others very superficial stitches; and the variations of interrupted, continuous and recurrent continuous were practiced.

In the earliest operations toothed thumb forceps were used to pick up a few muscular fibers to steady the organ for the making of the incision and placing the sutures. At the first pinch the heart, of course, delayed a systole and then began to beat rapidly and violently and continued this as long as the forceps were in place. It was exactly as if the heart were surprised and at first checked by the intrusion of the forceps teeth, and then recovered to make violent and strenuous efforts to escape from the grip, and if the forceps' hold was continued it usually succeeded in this by the tearing of the fibers. One of my dogs died on the table from hemorrhage due to the tearing of the muscle in the bite of the forceps and my inability to at first catch the edge of the open wound in the bottom of a pericardium overflowing with blood, and although I did finally succeed in getting in two sutures they were placed too late.

A METHOD TO HOLD THE HEART DURING SUTURE.

To overcome this difficulty with the forceps I put into the heart, before incising it, two long suspension loops of silk, dipping the needle carrying them deep into the ventricular wall. These gave complete control of the organ, for they did not tear out, and even though the heart was hanging from them its function continued, and much less tumultuously than it did in the bite of the forceps; and with them the heart could be lifted quite halfway out of the pericardial incision, or it could be swung to one side or the other, or rolled over in either direction, its range of motion being limited only by the great vessels at the base.

I placed these loops side by side and about a centimeter apart, and could then incise between them, hold the wound open, by traction on the loops, to verify penetration and then, crossing the loops, could absolutely stop bleeding and steady the heart, for under this control the point of the incision seemed to be the starting point of the systolic waves.

DIASTOLIC SUTURE UNNECESSARY.

Now, even with the incision coapted and held relatively motionless by the crossed and taut suspension loops—so that the placing of a suture was no more difficult than in an indifferent tissue—I found it impracticable, yes, impossible, to make a diastolic thrust of the needle, to pull the suture into place in the succeeding diastole, and to tie the knots in the ones following. To do this would require a man to work with accuracy, and yet with perfectly-timed breaks in his work, in various fractions of successive seconds—for these hearts are always beating more than one hundred times to the minute. And the impossibility which I encountered has made it very difficult for me to believe that anyone, even if he has attempted it, has ever really done it. Nor can I see what is gained by it.

The heart does not bleed in diastole, it bleeds in systole, and the suture must be tied to be efficient at that time, and the way to do it is to tie quietly and firmly, during the rapid beating of the heart, and to take no account of split second diastoles, but watch the knots as one should watch the knots of the ligature in a major vessel. And the same judgment which controls the tension of the suture should control the depth to which it reaches. I can not agree, from what I have seen of the actual working of the matter, that a superficial suture will hold where a deep one will tear out. One is suturing the myocardium, not the epicardium. Of course, it is inadvisable to penetrate the endocardium, but it is, at the same time, and fortunately, a difficult thing to do. I did it once because I intended to do it, and I had to take a larger needle than I had ordinarily worked with, and definitely carry it through the heart wall and return; and from this I learned that, with the medium-sized, full-curved needle which one would commonly use, the penetration of the left ventricle is not to be feared.

On this point it only remains to be said that, in the case in which the endocardium was included in the stitch, the strand of suture stretched across the cavity of the ventricle was the occasion of the formation of a little globular clot, which was found at the autopsy to be firm and white, and surrounded by a large postmortem clot.

Elsberg's very complete studies of the healing process showed that the muscular fibers in the bight of the suture atrophy and are replaced by fibrous tissue, and he points out that, very evidently, there would be less of this lower

grade tissue in the case of an interrupted suture; but, so far as I have been able to judge, the difference amounts to very little practically, and the saving of time in the continuous over the interrupted suture is manifest, and it is the method finally advised by Terrier and Reymond a year ago. I had thought that the lessening of the number of knots on the epicardial surface by the use of the continuous suture might be a special point in its favor, but the matter seems to be unimportant, for all knots quickly sink into the tissues, leaving a flush surface which is covered with fibrin.

CAUSES OF DEATH.

For my experiments I have used dogs—primarily because of the size of the heart in the larger dog—and I had the same difficulty that other experimenters have had with the animal, for there is no mediastinum, the whole thorax being lined by one continuous membrane, and as soon as this is opened both lungs collapse, so that artificial respiration by bellows is needed. There are two important points in connection with this fact: a very large serous surface is exposed to the air and to infection, and it is practically impossible to avoid leaving a certain degree of pneumothorax when the chest is closed. Collateral traumatism and infection, then, led to the early death of most of the dogs; indeed, only two lived ten days and then both died of empyema and pyopericardium. This makes it impossible for me to speak as confidently regarding the catgut suture as I should like, for *a priori* I should prefer in this place the absorbable suture, because a stitch once in is there to stay, and the opportunity of going back and removing it, if its presence is resented by the tissues, can not be looked for. Still it is to be noted that one operator, Fontan of Paris, has the distinction of having twice sutured the heart with the recovery of both patients, and Launay has successfully closed two wounds in one heart, the suture material in all three cases having been catgut, and on the other hand, Nietert of St. Louis, has also two successful heart sutures to his credit, his suture material being silk. Still, if it can be shown that the healing process takes place to a practical extent during the persistence of the catgut it will be reasonable to argue that no great objection can lie against the absorbable suture. In Elsberg's paper he asserts that reparative processes are in train in twenty-four hours, in forty-eight hours there is a dense round cell infiltration, by the fourth day spindle cells appear, by the seventh day they replace the degenerated muscle fiber, and by the tenth day the granulation tissue is becoming fibrous tissue. He reports several rabbits killed on the fourteenth day with the wound in the heart firmly healed, and in one instance a rabbit dead of sepsis had a firmly-closed heart wound on the eighth day. In two of my dogs, both dead of sepsis on the tenth day, the heart wounds were firmly closed, with no evidence of leakage or hemorrhage, although in one the infective process had attacked the epicardium and penetrated the myocardium. It does not need to be said that these dogs count for very little; but the inference is simple, from the whole evidence, that wounds of the heart muscle heal very rapidly and that the process may be practically completed quite within the life of a catgut suture. And the evidence of Fontan's two patients, one of whom was infected, and Launay's case of two wounds in one heart, is on the same side, and I shall therefore assume that catgut is, at least, a permissible suture material.

SUCCESS OF THE CLOSURE OF HEART WOUND.

Finally it has to be said that in my dogs these sutures, however placed or tied, always controlled the hemorrhage and closed the opening, and that the healing processes, as they were studied, followed a course practically similar to that in Elsberg's experiments on rabbits, up to the death of my animals. They show that the repair in heart muscle is in no way different from the repair in skeletal muscles, and that it is no more interfered with by the action of the heart than are the nutritive processes of the organ.

I do not know of any of the successful cases of heart suture in man having died later, but there is reference to a case of Izzi's in which the heart was wounded but not sutured, and the man recovered, but on the twenty-eighth day, having left the hospital, he made considerable effort to lift a weight and had rupture of the cicatrix in the heart wall and sudden death. Of course, the wound in this heart had been filled by a coagulum, and in the process of healing this was organized or replaced by cicatricial tissue, and there never had been the proper coaptation of the heart muscle in the edges of the cut.

So far as the heart itself is concerned the proposition for its suture, in case of wound, is properly established; and if it were a superficial organ and easy of access, and if the path by which it is reached could easily be closed again, the whole matter would be eminently simple. The operation would be more frequently done for the occasions demanding it would more frequently arise, and the whole technic would be quickly worked out in detail. But the heart, while it is close to the surface of the body at one point, is not a superficial organ, and to reach it the bony and muscular chest wall has to be traversed—a matter of no special import—and two serous sacs have to be invaded. Herein lies the great difficulty.

INTERFERENCE OF THE PLEURA.

It is true that in a dissection the pericardium can usually be reached without a wound of the left pleura, but it can only be done by taking the pleura definitely into account. The anterior limits of the sac are very various and in the dissecting room it has been found to extend across behind the sternum almost to the right border of the bone. Commonly, it overlaps and lies just internal to the left border of the sternum as far down as the fourth cartilage, and from this point gradually passes downwards and outwards crossing the sternal end of the fifth cartilage and just internal to the middle at the sixth. A wound, therefore, to reach the pericardium and heart without injuring the pleura would have to be placed in the sixth interspace and close to the sternal edge, and be directed almost exactly backwards. This place is so small that practically it is never found, and it is necessary to consider that all wounds which penetrate the pericardium have traversed the pleura, and it is across the same tissue and sac that the surgeon must pass who attempts to repair the wound. There is another point to be considered here. The opening of a serous sac, either accidently or surgically, exposes it to infection, and the serous membrane, by a power inherent in it, deals with such infection as occurs unless the latter overwhelms it. The question has been thoroughly studied by all, in its relation to the peritoneum, but I wish merely to refer to the fact that the peritoneum offers opportunities for the localization of an infection which can not otherwise be disposed of, and that intestinal rest may contribute greatly to this localization. Both the pleura and pericardium differ from the peritoneum in this respect—the surfaces of neither offer pockets or recesses in which an infection may be confined, and constant motion incident to breathing and the

heart beat, tends to disseminate pathogens and to quickly distribute them over the whole surface of the sac.

So far as the arrangement of the lymphatics of the pleura is concerned, its power of absorption should be greater than that of the peritoneum, and in certain cases of infection, as in the empyema of pneumonia, it does show considerable ability to deal with the condition; but in view of the great frequency of infection of the left pleura in connection with heart wounds, I am obliged to believe that the inability to obtain surgical rest for the tissue is a prominent factor in producing and perpetuating the condition.

In writing on wounds of the pleura and lung, Terrier and Reymond claim that infection of the pleura is not likely to occur unless there is a coincident wound of the lung. They argue that the infection probably comes from a bronchus, and base the treatment necessary for a traumatic hemothorax on the presence or absence of hemoptysis. In no one of the clinical histories of these heart wounds which I have seen is there mention of hemoptysis, but they nearly all had hemothorax, large quantities of blood being in the pleura, and a large percentage had a subsequent infection.

SEPSIS AND DRAINAGE.

Of the thirty-four cases, nineteen lived long enough for the development of an infection, and in ten it developed, and of these six died, showing that infection so affects prognosis in these cases that a man infected has not so much as half a chance to recover; or, to put it differently, more than half of the cases were infected, and of these more than half died. It is of particular interest to know the time of the implantation of the infection, and I have found records of nine other cases of wounds of the pericardium and heart which were not submitted to any primary operation, and of these three had local infection, and one had primary local healing but died of a peritonitis. The number of cases is very small, but so far as they go they show that about one-third of them are infected by the wounding instrument and that primary operation increases the chance of an infection to more than half; this, however, must not be taken as counting against the doing of the operation, for its object is to control conditions which lead to certain death, and even with an infection recovery is not impossible. The knowledge of the great likelihood of an infection at the time of the receipt of the wound must be made use of, and one must consider if such a wound is not to be treated as one already infected. If this is done some method of drainage will be employed, and the detail of its arrangement is complicated by this fact, that one serous sac, the pericardium, must be drained across or through another, the pleura. The advice is given, probably in view of this difficulty, that both pericardium and pleura be closed without drainage, but some operators have drained and their results merit consideration. So far as I can learn, eleven of the thirty-four cases had primary drainage arranged, four for the pleura alone, and seven for the pleura and pericardium. Of the eleven seven recovered though two had infection. Of the four who died, two died of sepsis, and two of collapse before the possibility of knowing if sepsis was to develop or not, and if we exclude these last two we have nine cases drained and seven recovering.

Now, on the other side, there were nine cases that had no primary drain, and did have infection, and of these five recovered. The number of cases is small, seven out of nine and five out of nine, but in these cases, as in many, many others, a hair, perhaps, divides the chances of success from those of failure, and where we have only small statistics at hand, it is with those that we must work, and on them base our future actions.

In the drainage of the pericardium there is a point worth mentioning. The material should, of course, be gauze, it may be put in a small space left unclosed at the lowest point of the wound (Mignon et Sieur) and it does not need to go deeply into the sac, for with the patient supine or reclining the heart will sink in any effused fluid towards the dorsal side of the sac displacing the fluid towards the ventral side, where a drain may easily reach it; but the fluid must pass upwards from the pericardium towards the skin opening, and this is, of course, a disadvantage. For the pleura a drain may be arranged to make its exit by the same opening as that for the pericardium or, and this seems the wiser plan, it may have an independent opening near the posterior axillary line, where it will be of most service if empyema does develop, and may, in such a case, obviate the need of a secondary thoracotomy. Of course, if no sepsis supervene all drains should be very shortly removed.

OTHER POINTS TO CONSIDER.

In the time allotted this paper on the program of the Association it has only been possible to discuss the two technical points of suture and drainage, and the matter of the symptoms and the anatomic details of the wounds which have been put on record have, in spite of their importance, been passed by. Very briefly, the symptoms may be listed as consisting of the external wound in the precordial region, the general evidences of hemorrhage, the disturbance of the heart function sequent to the trauma and the acute anemia, and the local signs of the filling of the pericardium and, secondarily and in most cases, the pleura. As regards the wound itself, I believe, from examining the hearts which I have punctured and incised, that the endocardial wound is always smaller than the epicardial wound, excepting, I should imagine, in the bullet wound cases. This difference in the size of the wound at its two limits will explain the living of some with apparently large wounds but from which the amount of bleeding has not been commensurate with the size of the visible wound. It is necessary only to revert to the fact that the different parts of the heart behave somewhat differently when wounded. The thicker wall of the left ventricle offers a greater obstacle to hemorrhage and a better opportunity for suture than any other part; wounds of the right ventricle bleed more and are more difficult to suture, and the thin walled auricles are saved from a lethal hemorrhage, when they are wounded, by the comparatively low pressure of the blood in them, while in their loose structure a practical suture is a difficult thing.

CONCLUSIONS.

The operations which have been recorded mark only the beginning; the heart is now destined to be submitted to many manipulations provided they may be done without stopping its action at once. It is a very unsafe thing to prophesy, but that more will be attempted can easily be inferred, for interference with the mitral orifice has already been suggested, and the immediate neighborhood of the heart has been invaded and a sacculated aneurysm of the aorta has been tied off, the success of this well-executed maneuver being prevented only by the failure of the atheromatous vessel walls to heal. Possibly, the next step may be delayed as long as the application to the heart of common surgical methods was delayed after Desault had taught us to

open the pericardium. Perhaps it may come soon. It is not impossible that a new surgical technic may have to be created, but it is most probable that the next step will be based on the new application of the very old matters of the suture and drainage.

MEMORANDUM OF EXPERIMENTS.

CASE 1.—Mongrel Newfoundland dog, ether, thorax opened to left of the sternum by turning up a flap of bone, muscle and skin. Triangularis sterni was carefully incised, but the pleura was opened and both lungs immediately collapsed. Pericardium was quickly opened and heart was massaged, as its action failed, to keep it going until the trachea could be opened and the bellows apparatus attached. Manipulations were not quick enough and the dog died on the table. A dissection showed that there was but one pleural sac for both sides of the chest, and that the lungs surrounded the heart much more completely than they do in man.

CASE 2.—Mongrel Newfoundland, hypodermic of morphin 0.1; ether. Tube in trachea and connection made with a bellows apparatus which permitted the use of air alone, or of air and ether vapor. Sternum exposed and then split by a costatome. In doing this the left lung was wounded, but the right was not and its inflation proved sufficient for respiratory purposes. Thorax widely opened, pericardium picked up and opened and then, by seizing the edges of the opening with hemostats and lifting, the heart was brought up into the opening in the chest wall. The heart's action was strong and regular. Heart wall caught with toothed forceps; systole postponed, and then rapid and tumultuous heart action, tugging forcibly on the forceps. Punctured wound into left ventricle, parallel with the superficial fibers. Spurt of blood, dark in color (because of collapse of one lung), systolic in time. The action of the heart was so rapid that it was impossible to estimate the amount of diastolic hemorrhage. Two interrupted cumolized catgut sutures, passed deeply but not intended to penetrate the endocardium. Hemorrhage controlled absolutely. Pericardium sponged out and closed by a continuous catgut suture. Chest wall sutured, the sutures drawing together the sides of the split sternum, and dog left with a certain amount of pneumothorax, the right lung being easily inflated, but the left being wholly collapsed and at the back of the chest. Deep

CASES OF SUTURES OF WOUNDS OF THE HEART.*

Operator and Year.	Location of External Wound.	Chamber Wounded and Size of Wound.	Time of Operation After Injury.	Anesthetic.	Results and Remarks.
1. Farina. 1896	Just above the margin of the left sixth rib, near the sternum.	R. V.; ¼ inch; 3 stitches.	.....	.....	Death on sixth day, from bronchopneumonia.
2. Cappelen. 1896	Fourth left intercostal space in mid-axillary line.	L. V.; 4/5 inch	1 hour.	.....	Death after several days; pericarditis; branch coronary artery cut.
3. Rehn. 1896	Fourth left intercostal space near sternum.	R. V.; 3 stitches	Following evening.	.....	Recovery; empyema.
4. Parozzani. 1897	Seventh left intercostal space in mid-axillary line.	L. V.; ¾ inch	5 hours	None	Recovery.
5. Parozzani.	Third left intercostal space	L. V.; 3/5 inch	½ hour	None	Death on second day from anemia(?). Interventricular septum had been cut.
6. Fummi. 1898	Under left nipple.	Apex; cavity not opened; 1 stitch.	Several hours.	.....	Recovery; empyema.
7. Ninni. 1898	Fifth left intercostal space	L. V.; 3 stitches	Quickly.	None	Death on table.
8. Parlavecchio. 1898	Fifth left intercostal space	L. V.; 1½ inch; apex	8 hours	Chloroform	Recovery.
9. Giordano. 1898	Second left intercostal space	L. A.; 4/5 inch; 4 stitches.	½ hour	None	Death on nineteenth day from empyema; abscesses of right lung.
10. Nicolai. 1899	Fourth left intercostal space, midway between margin of sternum and nipple.	R. V.	1½ hours	Yes	Death after twelve hours.
11. Tuzzi.	Fourth left intercostal space	Two wounds; non-penetrating.	.....	None	Death on twenty-second day from empyema; pericarditis.
12. Longo.	Fifth left intercostal space; 2/5 inch internal to nipple.	L. V.; 3 stitches	At once	None	Death in fifteen minutes.
13. Ramoni.	At third left cartilage; 4/5 inch from sternum.	R. V.; 2 wounds: 1 non-penetrat.; 4 stitches	.....	None	Recovery.
14. Marion. 1899	Shot through breast	R. V.; catgut sutures.	.....	.....	Death.
15. Rosa. 1899	Fifth intercostal space.	L. V.; 3/5 inch; not certain it penetrated ventricle.	.....	None	Recovery.
16. Horodynski. 1899		R. V.; 1½ cm. long	.....	.....	Death.
17. Maliszewski. 1899		.....	.....	.....	Death.
18. Maliszewski. 1899		.....	.....	.....	Death.
19. Bufnoir. 1899	Sixth left intercostal space	R. V.; gunshot: 22-calibre.	.....	.....	Death; necropsy showed perforation of ventricle and the anterior opening only had been sutured.
20. Pagenstecher. 1899	Fourth left intercostal space beneath the nipple.	L. V.; near apex: 2 stitches.	16 hours.	None	Recovery.
21. Nanu. 1900.	Third intercostal space, 4 cm. from edge of sternum.	R. V.: 2 cm. long; 2 interrupted sutures	.....	.....	Death on fifth day from infection of pericardium and pleura.
22. Maselli. 1900.	Below and internal to left nipple, cutting sixth rib.	L. V.; near apex; 2 stitches.	1½ hours	.....	Death in twelve hours.
23. Fontan. 1900.	Six wounds with scissors between third and seventh ribs in cardiac region.	L. V.; 12 mm. long: continuous catgut sutures; 3 stitches.	6 hours	Chloroform	Recovery.
24. Nietert. 1901.		R. V. penetrated; 3 silk sutures.	.....	.....	Death after thirty-six hours.
25. Vaughan. 1901.	Fifth left costal cartilage divided.	L. V.; 2½ cm. long: continuous silk sutures; 7 stitches.	¾ hour	Ether	Death on table from hemorrhage about completion of operation.
26. Nietert. 1901	Left of sternum.	L. V.; not sure cavity was penetrated; 2 sutures.	.....	.....	Recovery.
27. Ninni. 1901	Left of sternum	R. A.	.....	.....	Death in four days; sepsis.
28. Mignon et Sieur. 1901.		R. V	.....	.....	Death.
29. Fontan. 1901		L. V.; catgut sutures	.....	.....	Recovered; had empyema.
30. Brenner.[1] 1901	Left of sternum, near sixth cartilage	R. V.; 7 cm	Following day	Yes	Death on table; degenerate heart muscle.
31. Watten.[2] 1901	Fourth right intercostal space.	R. V.; 3.5 to 4 cm	.....	.....	Recovery; right pleura wounded; pneumothorax.
32. Lastaria. 1901.		L. V.	.....	.....	Died soon.
33. Launay.[3] 1902.		L. V.; ant. and post. walls; pistol shot: catgut sut. in each	.....	.....	Recovery; no complications.
34. Nietert.[4] 1902	Left sixth interspace, to right of papillary line.	L. V.; far back, 2 cm.; penetration uncertain; 2 interrupted silk sutures	14½ hours.	.....	Recovery; purulo-sanguinolent effusion and thoracotomy.

* Cases 1 to 26 inclusive from table of Geo. T. Vaughan, M.D., Medical News, Dec. 7, 1901.

1. Wiener Klin. Woch., 1901, No. 11. 2. Deutsche Med. Woch., 1901, No. 37. 3. La Presse Medicale, March 29, 1902.
4. Phil. Med. Jour., May 3, 1902.

and half deep sutures in the subcutaneous tissues and a subcuticular stitch for the skin. Gauze and collodion over suture line and gauze pads and a body bandage over all. The tube was taken out of the trachea—each cut cartilaginous ring sutured and also the membrane between. The separated muscles put in place, and deep, half deep, and subcuticular sutures as in the chest wound, and then same kind of dressing applied. As soon as the bellows apparatus and the tracheal tube were removed active respiration began. After five minutes it was 17 to the minute and fifteen minutes later it was 16 to the minute. The character of the respiration was good. Twenty-four hours later the dog was in a bad state—he would not stand, nor eat nor drink. Respiration was deep and labored. Dog found dead on the morning of the second day. Heart only examined. The two sutures were easily seen.

Microscopic examination of the wound area. Exudate on pericardium is comparatively thin and consists chiefly of coagulated fibrin in which are polymorphonuclear leucocytes and a large number of small round cells. The pericardium had lost its typical glistening appearance. It is taking part in the inflammatory process on its surface. Considerable amount of altered blood pigment is found in the pericardial exudate. Sutures surrounded by a mass of leucocytes can be seen in this section and the incision extends direct from the pericardium to the endocardium. It is characterized by extensive extravasations of blood, coagulated fibrin, and platelets in which are numerous polymorphonuclear leucocytes. The heart muscle cells on either side of the incision are undergoing either hyalin degeneration or coagulation necrosis. Karyolysis is marked in these cells. In the intermuscular septa between the different fasiculi of muscle fibers are found extensive accumulations of leucocytes, many of which contain pigment granules derived from the blood. No definite evidence is obtained from the section that the repair is advanced to an extent marked by the new formation of blood vessels. The endocardium is somewhat thickened and is covered with an exudate composed of fibrin, leucocytes, red blood corpuscles and blood platelets. The wound in the endocardium is not closed.

CASE 3.—Big short-haired mongrel, hypodermic morphin 0.1; ether. Tube in trachea. Sternum split with a strong knife and lungs not wounded. Bellows at work and thorax opened widely. Pericardium split open and heart lifted to surface as in Case 2. Punctured wound as before, heart steadied by toothed forceps grasping fibers. Strong systolic jets of blood. One suture, cumolized catgut, controlled it, though it was not passed deeply. A second suture, more superficial, was put in. The pericardium was cleared of blood and sutured and all the other tissues closed as in Case 2. Chromicized catgut, thick and strong, was used for the sternum. As the final stitches which closed the subcutaneous tissues over the sternum were placed and tied the lungs were fully inflated to expel all the air possible from the thorax. The dog came out of the ether quickly and whined and struggled. Pulse 156, respiration 18. Two days later the dog was up and about and ate and drank and was friendly. At the end of the week the wound was open somewhat and the dog was weak and sick. He was found dead on the tenth day.

Postmortem.—Tracheal wound healed throughout and without suppuration. Sternal wound healed in part per primam and in part per secundum except that from the upper and lower ends were open sinuses leading in, and from them came seropurulent fluid. The lower sinus communicated by a tortuous narrow (2 mm.) path with the pleural cavities. Muscles and cellular tissues of the thoracic wall show intense inflammatory reaction. Both sides of chest cavity full of serosanguineous exudate, with purulent flocculi. Entire pleura covered with a fibrino-purulent exudate and lungs adherent at places by fresh adhesions. Lungs atelectatic, free borders and surfaces shriveled and puckered. Cut surface of lung shows congestion but is otherwise normal. Pericardium adherent to inner surface of sternum, the incision in it opened and cavity communicating directly with the incision. Pericardial cavity contains small quantity purulent exudate and same is on epicardium and pericardium and an adhesion between these exists along the line of incision in the myocardium. Incision may not have opened ventricular cavity. Diaphragm and liver pushed down by the amount of pleural exudate. No changes in abdominal viscera.

Note.—In the laboratory where this dog was operated upon other dogs had been used for experimental abdominal work, and some bone work had also been done. This dog had had an intestinal suture a month before the heart operation. The intestinal and other abdominal work had been followed by clean aseptic healing. The incisions for the bone filling which were over the trochanters, had in two instances been torn open by the dogs. The heart operation was done with the utmost care to secure aseptic conditions, and in spite of it a massive infection occurred.

Microscopic examination of wound area.—The epicardium over the incision in the heart muscle is covered by a thick partially-organized exudate which consists chiefly of coagulated fibrin with numerous polymorphonuclear leucocytes embedded in the meshwork formed by its filaments. A considerable number of new-formed blood vessels and fibroblasts can be seen making their way from the pericardium into the mass of the exudate. This also contains numerous fat globules. The catgut sutures can be distinctly seen in the myocardium and are surrounded by an intense zone of reaction, the chief part of which consists of polymorphonuclear leucocytes and numerous round cells. Evidence of the formation of a few new blood vessels seen at the periphery of the zone. Specimen not stained for micro-organisms, but the tissues at these points had the appearance of being infected and look like early abscess formation. For a considerable distance beneath the epicardium over the whole area covered by the exudate there is a marked degeneration of the heart muscle cells. They stain poorly, the outlines are not clearly marked, the nuclei show bizarre arrangement of the chromatin and occasional instances of karyolysis. No evidence of fibrillation can be seen in the degenerated cells. In the interspaces between are numerous polymorphonuclear leucocytes and small round cells. Along the line of incision in the heart muscle there is some evidence of healing, the extravasated blood is mostly absorbed and the adjacent walls of the wound bound together by coagulated fibrin. Here and there are occasional spots suggestive of the formation of new blood vessels. Either the incision does not extend to the endocardium or the section of the heart muscle has taken an oblique plane so that in this section at least the endocardium remains unaltered and intact.

CASE 4.—Big shepherd dog, hypodermic of morphin 0.1; ether. Tracheal tube and bellows. Thorax and pericardium opened as in Case 3 and without wounding lungs. Transverse punctured wound in left ventricle, close to apex, violent systolic hemorrhage, the heart beating very rapidly. Muscle in bite of forceps tore out and heart escaped, beating rapidly and bleeding profusely. Finger in apex partly controlled bleeding, but position difficult to maintain because of the action of the heart and a little force tore the opening, making it a 2 cm. rent, and finger passed into ventricle. Dog began to make respiratory efforts in spite of bellows. Edge of wound finally caught with forceps and two sutures hurriedly passed and apparently closed opening and checked bleeding. Heart action getting weaker, but suture of pericardium begun. Heart stopped before completion of pericardial suture.

Heart removed—wound found to be larger than had been thought, and only half of it sutured. Pericardium and thorax full of blood clots. Heart muscle had been torn by the forceps and the finger, and apparently was more than ordinarily friable.

CASE 5.—Big mongrel Newfoundland, hypodermic of morphin 0.1; ether. Tube in trachea and bellows attached. Usual technic to expose heart. Two loops of silk, medium size, each loop about 15 cm. long put transversely into wall of left ventricle 2.5-3 cm. from apex, and about 1.5 cm. apart. The needle carrying the upper loop punctured the coronary vein and it was tied by a catgut suture carried around it by a small needle. The heart could be easily lifted by the loops and swung to right or left, or rolled over in either direction and the complete control was very satisfactory. A transverse puncture was made between the loops and the wound held open by them. The jet of blood, systolic, was very forcible. The

loops were then crossed and the opening closed. The taut loops now steadied the immediate field of operation and made the placing and tying of the sutures a simple matter. Three interrupted catgut sutures were put in, penetrating only 2-4 mm. into the myocardium, and controlled the hemorrhage. Silk loops were removed and there was no particular bleeding from their track.

Early in the operation the left internal mammary had been wounded near the upper part of the incision. As more dissection would have been needed to tie it pressure was tried and seemed to be enough. Bleeding recurred as the chest was being closed, but pressure again seemed efficient. Usual method of closing all cut tissues. In spite of efforts to avoid it considerable air was apparently left in the chest. Usual dressings. Half hour after chest was closed, respiration 26, somewhat labored. Death in less than twenty-four hours.

Postmortem.—Dressings blood-stained. Superficial and deep tissues on both sides of wound infiltrated with blood and a large clot under the right pectoral. The catgut sutures around the sternum had yielded. Pleural cavities full of whipped blood, and large clot in left side—lungs deeply congested, with fibrinous exudate at places on pleura. No healing in pericardial incision, pericardial sac filled with fluid, epicardium injected, but smooth and with no adhesions. Left ventricle in systole, right in diastole. Incision in wall 2 cm. long, closed by three sutures. Slight fibrinous exudate over wound. Internally, wound 6 mm. long, and covered by small fibrinous flake or globular thrombus.

CASE 6.—Boston terrier. Morphin 0.1, ether. Tube in trachea and bellows attached. Usual method of access to the heart; two silk loops in the left ventricle, transversely, near apex. Incision, transverse to superficial fibers, 1 cm. long, between the loops. Systolic spurts of blood, and hemostat introduced into the heart to verify penetration. Three catgut sutures—the middle one superficial, the two outer ones deeply placed to penetrate endocardium—the sutures turned in the edges of the incision somewhat. Usual method of closing incised tissues, except that the halves of the sternum were fastened with heavy black silk. Fifteen minutes after the removal of the tracheal tube, respiration 66 per minute, easily, as a dog breathes when running a little. Death in about 48 hours.

Postmortem.—Extensive submuscular emphysema, and a hemorrhage under the left pectoralis major. Silk sutures on sternum held perfectly. Pneumothorax, with emphysema of the connective tissue in the mediastinum. The air had followed along all structures that traversed the chest, especially the phrenic nerve, the lymph glands and the larger vessels and it worked along the sheath of the vena transversa from the first rib outward into the left axilla with the subclavian vein and so produced the submuscular emphysema, and on the right side, too, it had followed the subclavian vein through the costocoracoid membrane. The left pleura contains about 10 c.c. of bloody serum. Pleural surface covered with fibrinous exudate. Pericardial wound healing. Sac contains about 10 c.c. bloody serum. Pericardium slightly adherent to epicardium by thick fibrino-serous exudate and when the two membranes are pulled apart the "buttered bread" appearance of the surface is presented. Heart, left ventricle in systole, right in diastole. Wound in myocardium extends 1 cm. upwards and medianwards from apex, through septum into left ventricle. Closed by three interrupted catgut sutures. Wound covered by fibrinous exudate. Endocardium smooth except just about wound where there is red subserous hemorrhage. A white thrombus hangs from the strand of catgut in the ventricle, with postmortem clot about it.

Note.—The emphysema in this case had an interior source and can only be accounted for by some wound of the lung which could not be located. Perhaps there was a rupture or a wound when the lungs were distended to fill the chest at the time of the last suture.

CASE 7.—Mongrel Newfoundland, morphin 0.1, ether Tracheal tube and bellows. Usual approach to heart. Two loops, longitudinal, in left ventricle. A long incision, 2.5 cm. between the loops, opening the ventricle widely. Furious systolic hemorrhage. Loops crossed and opening closed and hemorrhage stopped. Rapid, continuous catgut suture from top to bottom of wound and return. One knot. Usual method of closing wounds. Very little air left in thorax. Six days later, dog alive. Later failure of strength and death on the tenth day.

Postmortem.—Body emaciated. Tracheal incision partly healed. Wound in thorax healed except at lower part, where it is somewhat open with sero-sanguineous discharge. Thorax deformed and looks like the pigeon breast of rachitic children. Pericardium adherent to chest wall; two halves of sternum not united but held by the sutures. Pleura everywhere injected and covered by fibrino-purulent exudate. Some adhesions. Some blood-stained fluid in right pleura and more in left. Lungs congested, but no consolication. Pericardium thickened and injected, and incision only partially healed. Contains a little sero-purulent exudate. Numerous adhesions between epicardium and pericardium, especially on the dorsal aspect, and when separated gave the "buttered bread" appearance. Incision in myocardium covered by fibrinous exudate, and purulent necrotic mass underneath it. Endocardium not examined. Peritoneum injected and with occasional areas of fibrinous exudate. In small intestine, about 30 cm. from the ilio-colic junction, an area of gangrene, 4 cm. long on the lateral aspect of the gut, and in the middle of this a perforation. In the gut mucosa was discolored, and covered by a soft brownish necrotic mass. Nothing else of moment in the abdomen.

Microscopic examination of wound area.—The exudate of the pericardium is even thicker than that of dog No. 2. It has the same constituents except that it is richer in fibrin and platelets and in R.B.C. Exquisite examples of new blood vessels can be followed from the pericardium into the exudate, but these vessels do not appear to be quite as old as those in dog No. 3. The reaction in the endocardium is extensive but does not penetrate deeply into the heart muscle, as in the case of the first section described. The heart muscle cells show just under the pericardium some evidences of degeneration, namely, in the pallor of the sarcoplasm marked karyolysis and in vacuolization. The line of necrosis which corresponds to the cheesy area described in the gross specimen. Sutures surrounded by a mass of polymorphonuclear leucocytes and small round cells showing all the stages of nuclear fragmentation or karyorrhexis. The area around the stitches has almost reached the stage of abscess formation. In many places the degeneration of the heart muscle has extended so far that the karyolysis is complete in the muscle cells and they appear as a pale pink staining mass of cytoplasm which do not even show the characteristic striations of the heart muscle cells. Neither the large nor the small disc of MacCallum are visible, nor are Krause's membranes made out. Under the immersion lens even with hematoxylon stain small masses of bacilli and cocci are visible. These are gathered in the spaces between the dead muscle cells and are also found along the line of incision and in the exudate on the surface as well as about the stitches.

CASE 8.—Big water spaniel, morphin 0.1, ether. The incision in the sternum, made with a costatome, failed to hold to the middle line and the lung was nipped. In opening the pericardium the coronary artery was cut and bled freely, but was easily ligated. In placing the silk suspension loop the rapid motions of the heart prevented accuracy, and the artery was wounded again, and again ligated. The left ventricle was opened by a punctured wound close to the apex, and then a closed hemostat was put in and opened so as to make the endocardial side of the wound the larger. A continuous very superficial suture controlled the hemorrhage. About 5 c.c. normal salt solution (NaCl 6. KCl. 2.5 Ca Cl 0.5 Aqua 1000) with some carmin in it was put into the pericardium and the incision sutured. About 500 c.c. of the same salt solution was poured into the pleura to displace any residual air. The punctured point on the lung was ligated and cut off. The usual method of closing the thorax. The dog lived about 48 hours, and the autopsy appearances were like those of Case 6. The use of the salt solution made no particular difference in the result.

CASE 9.—Big mongrel, morphin 0.1, ether. Tube in trachea. Usual approach to heart. Lung nipped by costatome. Heart punctured with needle—as point entered myocardium a postponed systole, which, when it came, was violent and followed by rapid action gradually slowing to the usual rhythm. The needle was withdrawn after the postponement. This was done to see if the acts of placing a suture could have been done in successive diastoles, and the experiment was repeated, but no diastole long enough for a definite act, like pulling through a suture or tying a knot, occurred. The bleeding from the needle wounds stopped spontaneously and quickly. The right coronary artery was cut and bled by spurts during systole, and was then tied. Transverse incision, 1 1-5 cm. near apex. Two interrupted stitches stopped all hemorrhage. Two c.c. salt solution with carmin in pericardium just before last suture. Pericardium and chest closed in the usual way. Heart beating rapidly and not very forcibly. Dog died in about 48 hours.

Autopsy showed conditions similar to those in Case 6.

CASE 10.—Mongrel fox terrier, morphin 0.1, ether. Tube in trachea. Heart approached in usual way with no collateral injury. No incision in heart. Usual closure of pericardium and thorax. At this point the heart stopped and the chest was reopened and the heart massaged, exciting only feeble fibrillary arhythmical contractions. Strychnin in the femoral vein and in the heart muscle produced no effect.

Death was ascribed to overdose of ether, as the apparatus was set for the administration of ether with the air.

CASE 11.—Small Mongrel. Same operation as Case 10. Again symptoms of heart failure and some delay in the resumption of active respiration, but 4 mgr. of strychnia stimulated both functions. This dog lived two weeks and then had an open wound over the sternum with the loose ends of the costal cartilages projecting from the surface of the wound. He was in good condition and begged for a dead rabbit which was in the laboratory. He was given morphin 0.1 and ether. Tube in trachea through new incision. An attempt to dissect into the pericardium past the lungs, which were assumed to be adherent to the deep side of the cicatrix, failed, and the pleura was again opened. Pericardium was adherent to the cicatrix, was opened, the line of suture had healed perfectly and the visceral side was smooth. Very little fluid in endocardium. No adhesions to heart. As it was out of the question to again close the thorax the dog was permitted to die.

CASE 12.—Small mongrel, morphin 0.1, ether. Tube in trachea. Usual approach to heart. Suspension loops. Punctured wound, longitudinal 1 to 1.5 cm. Three moderately deep interrupted sutures. Usual closure of pericardium. A change in the method of closing the thorax was a failure and the dog died in a few hours.

Two Belgian hares and two rabbits were also used, because of their having two pleuræ separated by a mediastinum, but we failed to be able to open the pericardium without opening the left and sometimes also the right pleura in this quartet and there was no time for further trials.

CLOSING REMARKS.

The early death of these dogs was a disappointment for I had especially desired to see if the cicatrix in the heart muscle would stretch with the lapse of time, or would yield under the strain of rapid and forcible action. As it was, in no instance was death due to the rupture of the wound or to hemorrhage from the failure of a stitch, and in the two dogs which lived long enough to permit a satisfactory observation the wound in the heart was rapidly healing. The supervention of sepsis and its usually rapidly fatal effect was apparently unavoidable, for all the technic of the operating room, even to having the preparation of the dog and the instruments and the operating table in the charge of a male trained nurse, was practiced. As I have said in the body of the paper, the pleura lacks the mechanical arrangements which favor the localization of infection in the peritoneum, and an originally minor infection has opportunity to become a general and extensive one. Drainage of the pericardium and pleura in the dog is not to be thought of, because the pericardium is in the middle of the one pleural sac, and could only be drained through it; and drainage of the pleura would inevitably result in the collapse of both lungs. Therefore, the dogs were permitted to die and no effort was made to help them out of their septic state.

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STATE MEDICINE, PAST, PRESENT AND FUTURE.

ORATION ON STATE MEDICINE DELIVERED BEFORE THE FIFTY-THIRD ANNUAL MEETING OF THE AMERICAN MEDICAL ASSOCIATION, AT SARATOGA SPRINGS, N. Y., JUNE 10-13, 1902.

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State Medicine had its origin with Moses, the great legislator. The bloodthirsty Egyptians of the dark ages, who in superstitious ignorance destroyed the lives of those among them who differed from their belief or creed, left nothing which the human race could follow for the preservation of health and life. Thirty odd centuries ago, the great law-giver, Moses, laid down sanitary rules, regulations and exercises which are followed at the present day by all civilized and semi-civilized nations.

THE SANITARY CODE OF MOSES.

Some 1300 years before the Christian era, the code contained in the Mosaic Exodus laid down restrictions on every possible act that mankind may perform to impair or impede existence. Such as they are, it is hardly possible to improve upon them at this enlightened day. Moses instructed his people that those sanitary commands were inspired by a Supreme Being; that the only health officer in existence was the Almighty, who could watch over their trespasses against the law. No matter where they might be, or what they might do, the Supreme Overseer would bring them to justice for the violation of the code of health.

It was handed down to the Israelites in an oral way for about one thousand years, when it became corrupt and neglected, like other laws of long standing when there is no one to enforce them.

About six centuries before the Christian era, the great Sanhedrin was formed; it consisted of seventy-two men, who compiled the oral law to a written law, adding to it, besides the moral, every possible sanitary regulation

that may benefit human health and life. This tribunal enacted laws to improve every possible means of securing healthy food, clothing and shelter, and established minor judiciary courts in every possible community, and gave these courts the right to bring before themselves anyone who violated the sanitary measures. The laws of the Sanhedrin were enforced and well kept for hundreds of years, during the time that Judea could establish and enforce its own laws, but when it fell under the sovereignty of the Romans, they were unable to enforce the laws with Roman influence; consequently, they were kept only by the pious Jews.

THE JUSTINIAN LAW.

The infidels could not be compelled to keep the commands under the Roman law. Hence the pious Jews of the sixth century appealed to the Roman Emperor Justinian, under whose reign a code was compiled by sixteen eminent jurists, establishing laws for all Roman states, and quoting decisions mostly from the Jewish Talmud, including many moral and sanitary measures, which is now termed the Justinian Law. Besides adopting many of the Talmudic laws, which did not differ from the Mosaic, they added many practical and sanitary regulations. It is to the Justinian Law that our present civilization is indebted for the abolishment of polygamy. It is to the laws of Justinian that we are indebted for the prohibition of the marriage of consanguinity. The combination of the Mosaic, Talmudic and Justinian laws forms a fair code for the preservation of human life. The Bible itself is one of the very best text-books on hygiene that has ever been written. He who strictly follows its teachings will be a perfect sanitarian. "We must learn," says a distinguished writer, "to regard physical as well as moral sins as greatly displeasing in the sight of God."

FEATURES OF THE MOSAIC LAW.

Jewish hygiene and diet are well known for their regulation to healthy food, for the Jews are restricted to certain fish of the waters and certain beasts of the field. It is from the Mosaic Law that we have learned to legislate against unwholesome food, especially of animal food. Every one of us knows with what care the Jews kill their cattle and their fowls, and with what care the autopsies are made on the animals before they are declared fit for use.

The sanitary laws of Moses provided for the segregation of lepers and the fumigation and destruction of infected clothing. These had great influence on Christian nations when contagion was recognized in epidemics, and probably most of them were, from the standpoint of to-day, either directly or indirectly infectious, and a grand advance in preservative methods became possible. All European nations enforced laws for limiting the spread of leprosy, and these, which have been handed down from ancient times, had merely to be modified in their application in order to exercise a controlling influence on the spread of fulminant febrile diseases.

PESTILENCE AND SUPERSTITION.

Before and after the beginning of the Christian era, plagues, pestilences and famines were classed together as of divine origin. The Greeks and Romans, from the evidences of their authors, resorted to forms and ceremonies to avert epidemics. Statues were erected to Æsculapius and Apollo; Sibylline books were consulted, nails were driven into the walls of the Temple of Jupiter Capitolinus, and the Lectisterne ceremonies were among the remedies applied to epidemics before the time of Christ. Later, festivals, mournings, and founding of religious structures were resorted to in order to appease the divine anger, to which the epidemics were attributed. For hundreds of years, thousands and thousands of human lives were sacrificed from various causes and infectious epidemics, of which we now seldom hear. The so-called sweating plague of the latter part of the fifteenth and the forepart of the sixteenth centuries, has not been heard of since 1551. Black death and epidemics of cholera with its ravages as late as 1848 and 1849, and the last of the tropical countries, yellow fever, to say nothing about the various other zymotic epidemics and infectious diseases, such as typhus, diphtheria, scarlatina, etc., have become a rarity among civilized nations. Livy tells us that during epidemics the Roman citizens shut themselves up in their houses and paid attention to nothing except how to preserve themselves from the pestilence. Boccaccio refers in his tales to the attempts made by Florence to preserve her citizens from the plague which overspread Europe in 1346 by denying access to all sick persons.

THE FIRST QUARANTINE.

The first arrangements for the isolation of the sick and quarantine establishment against infectious diseases reach back to the tenth century. Charles IV, in 1347, made a statute for German states, including certain measures for the isolation of the sick and quarantine establishment against certain diseases.

In 1348, a "Board of Supervision," a sort of council of hygiene which in the end served as a model for all Italy, was first established in Venice. At Majorca, in 1374, a committee of officials presided over by a physician, Lucien Colomines, was appointed with extensive powers, to whom the local magistrates at the outbreak of the plagues were directed to report.

This committee was also allowed a hospital, and it was directed that no ship should discharge passengers nor unload freight without their knowledge, nor should any port sales be held without preceding notice to the sanitary council. Suspected ships were required to keep quarantine for forty days, hence the name quarantine.

In 1348, the year of the extension of the black death, it was noted by many observers, and especially recorded by Gabriel de Mussis, who fled from the Crimea to Plaisance in France, that ships and passengers from the East conveyed the disease. That same year Venice, then the center of maritime commerce, appointed three proveditors of health to take measures for the prevention of the plague. Count Barnabo, in 1374, issued a decree at Reggio, in Italy, that any person attacked by the disease should instantly leave the city, fortress or castle for tents in the open country, until recovered or dead; that persons attending the sick should not consort with others until after the lapse of ten days; that the priests should examine and notify the infected sick to the inquisitors, and that all goods and property of persons infected, or who conveyed infection, should be confiscated to the use of the church, and none but those appointed should, under penalty of death and confiscation, attend upon the plague-stricken.

In 1382, Chalin de Vinario demonstrated that contagion was the cause of the spread of the plague. The following year Count Barnabo prohibited entrance of persons from infected localities under penalty of death; and his successor, Viscount John, in 1399, ordered the city gates to be guarded against admission of strangers from infected places, infected houses to be fumigated and thoroughly ventilated for a long period, clothes and

bedding to be washed and dried in the open air, bedsteads to be exposed for days in the open air, and all refuse matter and rubbish to be burnt.

In 1400 the Berlin butchers were compelled under the law to take the following oath: "I will sell no suckling sow, no consumptive or one-eyed cattle, and no cattle purchased from poor people out of the hospitals."

EXTENSION OF QUARANTINE.

During the fifteenth century, severe measures were employed in times of pestilence. Boards of health were frequently convoked and strict health ordinances issued. "It is forbidden to attend foreign markets and fairs. Whosoever, however, did attend fairs must undergo quarantine, the guard of the gates were strengthened, suspected persons were not admitted and strangers must bring evidence that they had not sojourned in places afflicted by the pestilence. 'Blotterhauser' were built, the attendants were forcibly pressed into service as nurses, the sick were shut up in their houses, suitable directions as to mode of life, even as to purification of the washings of the body and bed, on interment, etc., were published. The council sought to suppress the use of secret remedies, sorcery and necromancy; amulets were interdicted and burned."

The first quarantine port was established at Marseilles in 1526, and during this century the system of quarantine extended to most of the maritime cities of the Mediterranean, and many inland cities adopted similar precautions.

In 1846 the work on contagions and contagious diseases, by Fracastor of Venice, declaring contagion to be exhaled by the body, infecting those at hand directly through the air, and those at a distance through the medium of fomites, induced greater measures of exclusion. By degrees, the practice of quarantine extended over the whole civilized world, and the penalty measures were increased in severity. Torture and death awaited alike those who remained in the city, when ordered out, and those who entered when forbidden access. In the sixteenth century, not only were ships with their passengers and cargo detained in prolonged quarantine, but towns also were surrounded by sanitary cordons and completely blockaded for long periods, and even individual houses in the towns were closed against exit and entrance. Food and necessaries were obtained with difficulty and by the most circuitous methods of exchange, whilst politics, commerce, and social intercourse stagnated.

QUARANTINE IN THE UNITED STATES.

The first quarantine act adopted in the United States under the colonial system was passed by the General Assembly of Pennsylvania in 1700, and was entitled, "An act to prevent sick vessels coming into this Government." It imposed a penalty of one hundred pounds on any infected vessel which landed in the province. Other quarantine acts of greater or less severity were adopted by Massachusetts in 1701, Virginia in 1722, Delaware in 1726, North Carolina in 1775, New York in 1758, Maryland in 1760, etc. The first general quarantine act adopted by Congress was passed Feb. 23, 1799, and was designed to be supplementary to the various state acts. It was entitled, "An act respecting quarantine and health laws."

During the eighteenth century maritime quarantine and lazarets extended, especially on the Mediterranean coast, and increased in importance when inland pandemics subsided in severity. The quarantine services under boards of health, with their stations, lazarets, detentions, disinfections, numerous attendants and complicated ordinances, became large organizations. Europe was less frequently invaded by plague, against which maritime quarantine was almost entirely directed; therefore the lazarets were neglected, and the administration became lax. At the end of the century John Howard made strong protests and, in the beginning of the nineteenth century, cholera and yellow fever made their advent. This revived the interest in the prevention of pandemics, and shook the confidence placed in quarantine, as it was practiced at that time.

INTERNATIONAL SANITARY CONFERENCES.

The severe measures designed for plague in the seventeenth and eighteenth centuries were adopted for cholera and yellow fever in the nineteenth century, and they were embodied with modifications in a lengthy convention, accompanied by an elaborate International Sanitary Code. At the International Sanitary Conference held in Paris in 1851, and represented by twelve European powers. This convention did much to spread ideas of municipal hygiene in place of useless quarantines. Inspection of dwellings and destruction of sources of infection were strongly advocated. In the United States various yellow fever and other epidemics called attention to the subject. In the City of New York, in 1866, a Metropolitan Health Board was established, organized on the same lines as the English sanitary acts. Later, in 1869, Massachusetts established a state board, and other states and cities rapidly followed. Ten years later, in 1879, Congress created a National Board of Health, and to-day municipal hygiene is receiving a great deal of attention.

Municipal hygiene in Europe has been carried to a much further degree than in the United States. At the International Sanitary Conference held in Vienna in 1874, much modification with regard to quarantine was commenced. Inland quarantine was rejected as inadmissible. The Conference of Constantinople recommended the establishment of a strict quarantine in the Red Sea, for the purpose of preventing importation of cholera into Europe, and was met with approval. This was regarded as the strategic point in the line of defense, and therefore tended to weaken reliance upon quarantine in Western ports, and medical inspection was considered as a possible substitute in conjunction with local sanitary measures. Sir John Simon, Medical Officer of the Privy Council, in his memorandum, expressed the views of the local government board upon the prevention of cholera, which greatly influenced the opinions of the delegates. The precautions recommended in detail the various means applicable for the removal of filth, and the protection of water supplies, combined with careful disinfection of the discharges of any person who might be attacked.

In 1881, an International Sanitary Conference was held in Washington, and was attended by the representatives of twenty-seven states, including all the governments of Europe, except Switzerland. They discussed measures desirable to prevent the spread of yellow fever and cholera. No uniform agreement was arrived at on all points, but some of the recommendations were adopted by many of the foreign governments. After the invasion of Egypt by cholera in 1883, and of Europe in 1884, an International Sanitary Conference was held in Rome in 1885. The interested powers were represented by their embassadors or other diplomats, assisted by technical medical delegates. They traced the course of shipping from its point of departure from ports and

cities where cholera is endemic, for instance, Bombay, Calcutta, etc., and followed it through the Red Sea, the Suez Canal, the Mediterranean, to the open ocean. Later they considered the indications for inland precautions, and recommended the security of correct statements of sanitary conditions by the presence on big vessels of government medical officers independent of shipping companies, the disinfection on board, by means of steam chambers, of all soiled or dirty articles, the enforcement of strict precautions against the spread of cholera by the pilgrims to and from Mecca. Respecting the detention of ships, the powers represented expressed opinions that were arranged in the three following groups: Turkey, Spain, Mexico, Brazil, etc., favored the continuance of long quarantines. France, Germany, Austria, Hungary, Switzerland, Russia, Sweden, Norway, Italy and Portugal yielded to the data of modern science; whilst desiring short periods of quarantine they favored such detention as deemed necessary upon travelers and commerce; England and India advocated free passage without detention. Regarding quarantine, however, the opinions of Continental nations have been undergoing modification. At the International Congress of Hygiene, at Paris, during the exhibition of 1889, Dr. Proust, Inspector-General of the sanitary service of France, concluded a report on sanitation in seaport towns with the following propositions: "That it is the duty of governments and municipalities to render ports healthy; that sanitary works for seaport towns are more necessary than for other towns; that it is only after such works that any notable reduction in zymotic diseases and general death rates takes place, and that it is only when ports present a refractory soil for the penetration upon shipping can be suppressed." In spite of the dubious signification of the last resolution, there was ample indication that quarantine was slowly but surely being whittled down to small proportions.

Most of the microphytic diseases are found to prevail more or less in all parts of the civilized world. Certain are more prevalent in temperate zones; others are peculiar to the tropics, and are exotic in relation to this country. There are many diseases indigenous to certain tropical areas, but which are not naturalized in this country, such as Oriental plague, Asiatic cholera, yellow fever, dengue, yaws, elephantiasis, endemic hematuria, and chyluria, Oriental sore, and Madura foot. Besides these, some diseases, such as malaria and dysentery, appear in a more severe form in tropical than in temperate zones. On the contrary, scarlatina, erysipelas, whooping cough, cerebrospinal fever, and what is known as cholera nostras, are more common in temperate zones.

EPIDEMICS IN THE UNITED STATES.

According to the late Dr. Toner, the most important epidemics which prevailed in the United States during the eighteenth century were as follows:

Smallpox: In Boston in 1701, 1702, 1721, 1730, 1752, 1764, 1776, and 1792; in New York in 1721, 1731, and 1752; in Philadelphia in 1730-32, 1736, and 1756; in Charleston, S. C., in 1700, 1717, 1732, 1738, and 1760.

Yellow Fever: In Boston in 1796 and 1798; in New York in 1702, 1732, 1741, 1743, 1791, 1795, 1798, and 1799; in Philadelphia in 1741, 1762, 1793, 1797-99; in Charleston, S. C., in 1700, 1703, 1728, 1732, 1739, 1745, 1748, 1749, 1753, 1755, 1758, 1792, 1794, 1795, 1796, 1797, 1799; in New Orleans in 1769, 1791, 1793-95, 1797, 1799, 1800.

Scarlatina: (According to J. Lewis Smith, first imported into the United States in 1735.) In Boston in 1702, 1735, 1795; in New York in 1792-94.

Measles: In Massachusetts in 1713, 1739, 1769, 1773; in New York in 1788 and 1795; in Philadelphia in 1771, 1773, 1778, 1796; in Charleston, S. C., in 1747, 1759, 1772, 1775.

Angina (Diphtheria): In Kingston, N. H., in 1733-35; in Boston in 1735, 1769; in New England in 1737, 1742, 1787, etc.

GROWTH OF THE HOSPITAL.

The first hospital, or rather pest-house, was established in 1403 by the proveditors of Venice, on an island near that city, but only those actually attacked by plague were at first admitted. Later several other maritime cities in the Mediterranean founded similar institutions.

Hospitals especially for the insane were established first at Feltre, in Italy, then at Seville in 1409, then at Padua, 1410; Saragossa, 1425; Toledo, 1483, and Fez in 1492.

These hospitals may be regarded, however, rather as houses of correction or penitentiaries—in Lubeck these houses of detention were called "Tollkisten" (insane boxes), and were under the charge of the jailer—than as institutions for the care and treatment of the inmates.

In 1460, in Frankfort-on-the-Main, there existed nine so-called insane asylums, each nine feet long, broad and high, one of which contained a crazy woman, another a priest, a third a crazy apothecary. Of medical treatment there was not the least thought. The insane wallowed about in chains and without clothing in these horrible dens, covered with filth and their own excrement, as long as they were able to endure. Toward the close of the Middle Ages, the treatment of the insane became a little better, especially in free cities, where compassionate citizens assumed their care instead of police jailers. This practice first started in Lubeck, in 1478. Proper houses for the guardianship of the insane were also called into existence, gradually, by the example, donations, etc., of others.

MEDICOLEGAL BEGINNINGS.

We find that in the twelfth century there were state physicians and surgeons as advisers in forensic medicine. In 1249, Hugo of Lucca received from the burgomaster a commission to draw up a legal opinion, and as early as 1209 Pope Innocent III recommended the appointment of such physicians in canon law. In France and in the kingdom of Jerusalem sworn surgeons were employed by cities and courts, as medical experts, as early as the thirteenth century. Physicians and surgeons were employed as public witnesses, each in his own department.

In the fourteenth century, city physicians were required to take an oath to conform to certain instructions, the transgression of which involved a penalty. In this same century there existed at Strassburg the so-called "Libenzuchter," who exercised supervision over the moral and sanitary relations of the inhabitants. Strassburg had its first city physician in 1328.

GROWTH OF PHARMACOLOGY.

Arabians first started apothecaries in Europe, in Italy about 1135, and in Spain in 1140, at Cordova and Toledo. Frederick II, in 1224, enacted a pharmaceutic ordinance differentiating the druggist from the apothecary. The former was dealer in spices, essential oils and raw drugs, the latter compounded medicines.

In the thirteenth century there existed in France an "instruction" for apothecaries. The latter formed a guild, about fifth in rank. In the early part of the fourteenth century they were raised to the second rank, their "masters" being allowed to wear long black gowns and wide sleeves and velvet facings, like the judges. They, with the merchants, preserved the standard weights of Paris. The physicians were their overseers. Many compound remedies were prepared by them in the presence of medical magistrates, chief among these compounds being theriaca, which was thus prepared even in the eighteenth century, so as to escape adulteration.

Germany boasts of its first pharmacy in 1233. London was the seat of the first apothecary shop in 1345. In France, in 1330, a law was enacted for the inspection of pharmacies.

The first law under State Medicine regulating apothecaries was enacted at Strassburg in 1400, and at Stuttgart in 1486, which ordinance is still in force, and reads as follows: "That drugs must always be well selected and not decayed; that nothing except what is prescribed shall be put into a medicine, especially nothing dangerous by way of substitution; that the apothecary shall be responsible for his clerks, and shall not give any pernicious drug or any abortive; that the price list of the apothecary shall be correct; that in doubtful cases he shall apply to the physician," etc.

Since the time of Frederick, inspection of pharmacies has been added as a regular public function of physicians. It was practiced at Ulm in 1426, in Frankfort-on-the-Main in 1461 and in Berlin in 1499.

THE FIRST PURE FOOD LAWS.

Spain in 1283 passed an ordinance relating to adulteration of food and delicacies, the sale of poisons, and love potions, infection of the air by putrefying animal matters, etc. Strict imperial ordinances against the "improvement" of wine by sugar of lead, etc., were promulgated by an imperial diet in 1475, by the Emperor Frederick III in 1487, and by Maximilian in 1497.

The penal ordinance of the criminal court directed its attention to the falsification of goods in a special section on "Falscher mit Mass. Wag. und Kaufmannschaft," and their example has been followed in the modern German Empire. Beer, too, was kept under supervision, though this and other industrial productions were mainly controlled by the guilds.

Ordinances of medical police were issued in a few cities; one in Nuremburg in 1518 regarded the sale of food, popular amusements and adulteration of wine, a thing often done even by the ancients.

EARLY RULES GOVERNING AUTOPSIES.

Ordinances that came within the sphere of State Medicine existed even in the Middle Ages, Germany being among the first promoters. Autopsies were, everywhere, made in cases of poisoning. Charles V enacted a criminal ordinance in the year 1530 that definitely determined the cases in which the judge should summon expert medical assistance. These were all cases of infanticide, mortal wounds, apoplexy, poisoning, concealed pregnancy and childbirth, abortion, the practice of medicine by incompetent persons, etc. However, in this ordinance judicial autopsies were not directed. They were opposed by every superstition, and it was not until 1562 that Pare made a judicial autopsy, after which postmortems frequently took place. It was from this time on that reciprocal action upon each other of medicine and jurisprudence became permanent.

THE FOUNDERS OF MEDICAL JURISPRUDENCE.

State Medicine in the seventeenth century occupied considerable attention of the physicians at that time. Many contributed works on this subject; others devoted special time and study to anatomy. In the early part of the century, the Pope's physician, Paolo Zacchias, wrote an independent work, renowned not only for its medical information, but especially for the legal knowledge it contained. Zacchias, I believe, is looked upon as the founder of legal medicine. Later, N. Blegny, Gendrie d'Angers and others, in France, wrote on State Medicine.

But to the Germans, during the seventeenth century, are we indebted for active cultivation of this department. Ludwig von Hoernigk, in 1638 published a work on the duties of the medical profession as a whole; Paul Ammann and Hieronymus Welsch wrote works on the mortality of wounds; Melchior Sebiz, in 1641, likewise wrote on this subject, and on the signs of virginity. John Friedrich Zittmann, Bernard Suerus and John Bohn, the latter the scientific founder of State Medicine in Germany, wrote on these subjects. Conrad Berth Behrens, ordinary physician to the court of Brunswick, and J. W. Pfeizer, wrote on the duties of the forensic physician. The Hollander, Feltmann, expatiated on the examination of corpses, and John Brown on the mortality of wounds.

ACTIVE GROWTH OF LEGAL MEDICINE.

During the seventeenth century, numerous ordinances of medical police, or hygienic ordinances were enacted. This period may be styled the natal era of state police, and the law included ordinances relative to plague, clothing, food, the inspection of provisions, etc.

In the eighteenth century, State Medicine was in high state of cultivation, especially in Germany. Those who are acquainted with the works of Fabricius, Buttner, Ploucquet, Valentin, Ludwig, Tropanneger, Buchholz, Schlegel, Daniel, Platner, Teichmeyer, Alberti, Eschenbach, Metzger, Pyl, Uden, Delius, Baumer, Frank, etc., know to what extent forensic medicine advanced in that country.

In France, the learned Bellocoque, Prevost, Verdier, etc.; in Spain, del Valle, and in England, Farr—all are standard authors on State Medicine.

In the beginning of the nineteenth century, Pater Frank introduced the official distinction of medical police and forensic medicine. He became the champion of hygiene and was followed by Hebenstreit, von Huszty, von Nassynya, Scherf, and others.

The part of State Medicine which deals with practical instruction in sanitary science has, in Europe, been prosecuted in varying degrees in different countries. To such work as that carried on by Parkes, Klein, Creighton, Sanderson, Baxter, Smith and others in England; to the investigations of Pasteur, Chauveau, Duclaux, Chamberland, and others in France, and to the bacteriologic investigations of Koch, and the chemical studies of Pettenkofer, in Germany, are we to attribute the present position of practical knowledge of hygiene.

In some countries the instruction of public hygiene is limited, being usually confined to a course of hygiene in some medical school. In others there are institutes of hygiene on the most extended scale, as, for instance, those at Munich, Leipzig, and Copenhagen. In Hungary the province of instruction in State Medicine is of an extended character.

KNOWLEDGE OF ANATOMY BY THE ANCIENTS.

Autopsies and dissection are said to have been made hundreds of years before Christ. The Talmud thoroughly describes the anatomy, pathology and physiology of man, speaks of the dissection of animals, and also of the human being, teaches how to skeletonize, and cites the case of a prostitute whose body was boiled and afterwards skeletonized. We also know of the two great anatomists, Erasistratus and Herophilus, in 300 B. C.

EARLY DISSECTIONS.

Dissections have been made in every century; always with opposition by the laity. There was no regulation law by which a medical student could obtain material to study the elementary of medicine. However, we find that in the fifteenth century, Italy turned over her condemned criminals to medical colleges. It is related by writers that all condemned criminals of Italy were sent to Pisa for execution, and were frequently turned over to the anatomists of the University, who poisoned and then dissected them.

HUMAN VIVISECTION.

It is claimed, in the History of Louis XI, that a human being was vivisected in France. It states that in 1474 a condemned robber was vivisected for the purpose of finding out where certain maladies were concreted, from which he and numerous other persons were suffering at that time. Opening and incision were accordingly done, the maladies searched for and examined, after which the bowels were replaced and the body was sewn up again. The patient's wound is said to have healed within fifteen days, and he was pardoned and given some money.

In the sixteenth century, vivisection of human beings was charged against three men, viz., Berengar of Carpi, Vesalius and Fallopius in particular, and against the anatomists of the University of Pisa in general.

Berengar of Carpi is believed to have actually vivisected two Spaniards; Vesalius is accused of dissecting a Spanish nobleman, believing that he was dead, and Fallopius is said to have been his accuser. The following paragraph is found in the fourteenth chapter of his work, "De Tumoribus": "Fever resists 'colc' poisons, as I found at Pisa while anatomizing a man. For the prince commands them to give us a man, whom we kill in our own fashion, and anatomize. To whom we gave two drachms of opium, and an attack of ague coming on (for he suffered from quartan) prevented its action. He, delighted, requested a second dose, and that we should intercede for his pardon, if he survived it. We gave him another two drachms, when he had no attack, and he died." Such history sounds possible, but not probable; however, it is from this sort of history that the ignorant public, both European and American, have become prejudiced against medical colleges and believe that human beings are dissected alive.

The regular legal inquest of autopsies and postmortems was first established in Austria, in the early part of the eighteenth century. It was soon followed in France through the influence of Gardanne, and in Germany through that of Hufeland.

The first judicially authorized dissection in the United States was made by Dr. Shippen of Philadelphia, in November, 1762. The case was that of a negro who had cut his throat with a glass bottle, from the effect of which he died; after the coroner's jury had pronounced him guilty of self murder, his body was immediately ordered, by judicial authority, to "Dr. Shippen's Anatomic Theater."

LAWS ON DISSECTION.

The first American anatomy law is the New York Act of 1789; since that time 34 states allow dissection; 19 states have liberal anatomy acts, while 15 have illiberal ones; the laws of 11 states are silent regarding anatomy, excepting their laws on malpractice; 31 states forbid the desecration of graves, while the laws of 14 states are silent regarding either dissection and disinterment; none of the 3 territories allowed dissection.

Ignorant and preposterous opposition of pretenders has always been a snare to the study of pathology. The county commissioners in charge of the Chicago Asylum in 1884, raised religious prejudices against postmortems, and were found to be selling the bodies to medical colleges at $30 each for private profit.

OPPOSITION TO VIVISECTION.

The progress of medical science, especially of physiology, biology, hygiene, etc., has called increasing attention to a higher degree of research in anatomy and physiology; to that end, vivisection of the lower animals is necessary.

At every session of legislative bodies of the various states in the Union, and of every country in Europe, an attempt is made, by a set of so-called "anti-vivisectionists" to influence legislators to enact laws against vivisection.

The fact of the matter is that vivisection is unfortunately a most misleading term to the laity. They seem to have the idea that animals are cut up alive by medical men, and compelled to suffer great pain for unjustifiable objects. A small proportion of the public know that anesthetics are administered beforehand, and that the animal is killed before sensation returns, and that such experiments must be carefully made and free from pain, otherwise they would be useless.

VALUE OF VIVISECTION.

The question, value and character of scientific research, when carried out on living animals, has in late years been aroused by an attempt on the part of the enemies of science to entrap the influence of those who profess better things.

No physiology can advance without vivisection; experiments on living animals are as essential to its progress as is dissection for the study of anatomy. The law of sacrifice is the law of life; therefore, the law of nature, that one thing should be sacrificed for another. It is a common thing for a man to endanger his own life, to save that of another. How many physicians, nurses, etc., have lost their lives while attending to the sick and wounded in infectious diseases and in war on the battlefields.

I maintain that any person who would deny the saving of a human life at the cost of a mere dog, cat or rabbit, is a pretended humanitarian. For instance, a professor showed his students how he had saved the lives of several men by a certain operation on the brain. In order to demonstrate the operation, he performed a *fac simile* operation on a monkey, which also recovered. The professor, in his lecture, informed his pupils that before he ventured the first operation he performed it on a living monkey. Now, according to the opponents of vivisection, it would have been a lesser crime to have let several men die than to have risked the life of a monkey.

VIVISECTION DEVELOPS SYMPATHY.

Regarding the false idea, that a physiologist takes pleasure in making animals suffer, I will say that instead of developing cruelty, the practice of physiology tends

to increase in us the feeling of humanity and pity. The physician who has closely observed human suffering, instead of beind hardened by it, becomes more passionate. So the physiologists, who are acquainted with pain, are full of pity for suffering beings, and I do not hesitate to state that not one of them would be guilty of brutality toward an animal.

OUR DEBT TO VIVISECTION.

Take away from the science of medicine, and the art of surgery, all that with which physiology has enriched it, and the physician and surgeon of to-day would be no better than a mystery man or a quack vendor of chance-gotten drugs. Discard the present system of physiology, and all that has been gained by experiments on living animals, and the whole structure would collapse, leaving nothing but a few isolated facts of human experience.

The physiologic knowledge that we have and that we will gain in the future, if properly legislated in its favor, will benefit suffering humanity. The opponents do not stop to think that vivisection is as justifiable as the killing of animals for food. Physiology demands it for the good of all living creatures, and medical men should carry it out.

Moreover, I doubt if there is a single "anti-vivisectionist" who would miss a beefsteak for the sake of saving the life of a magnificent steer, or who would deny himself of either a veal or lamb chop in order to spare the life of a calf or that of an innocent lamb. Hundreds of millions of living creatures have already been sacrificed by epidemics, contagious and occult diseases, largely through the want of knowledge. It is unnecessary, therefore, to prove the utility and morality of vivisection. Nearly all physicians and all physiologists approve of it.

VACCINATION.

As a prophylactic against dangerous variola, compulsory vaccination was established early in the nineteenth century. It was first made compulsory in Germany in 1807.

Austria, Prussia, and even Russia recognized the value of the vaccine prophylactic, and made the practice general and compulsory throughout its territories, in the early part of the nineteenth century.

In 1853, in England, an Act of Parliament was passed making it a penal offence for any British subject to fail to protect himself by vaccination. In 1864, the American Medical Association, at its fourteenth annual session, held at Chicago, appointed a committee to inquire into the expediency of a national law compelling every individual in the United States to be vaccinated. The committee reported at the fifteenth annual session, at New York, in favor of such a law, but came to the conclusion that general compulsory vaccination in this country, at that time, was impracticable, owing to the unpleasant condition of our nation at that period.

TUBERCULOSIS.

But the time has now come when the medical profession should show the national supremacy, by their united action in demanding enforced national legislation for the protection of its inhabitants from infectious diseases by compelling every man, woman and child not only to be vaccinated, but also to take precaution against infectious tuberculosis.

Koch's first investigations revealed tubercle bacilli in the dust that had been contaminated by the sputa of phthisical patients, and the coma bacilli of cholera in the mud-banks of Indian water-tanks. Kitasato of Japan, and other observers have found tetanus bacilli in the soil.

These and numerous other experiments have proved the presence of pathogenic microbes in the soil. Those investigations endured a great amount of experimental work under the auspices of various governments, such as France, Germany, Austria, England, Russia and the United States. The field of contagious animal diseases is in a much more advanced state, controlled, as it is, by the Bureau of Animal Industries, under the Department of Agriculture.

TUBERCULOSIS MORTALITY.

According to statistics, tuberculosis kills one-seventh of all the population of the world, and one-third of all deaths occurring between the ages of fifteen and sixty years are due to tuberculosis. Furthermore, it destroys four and a half times more people than do smallpox, scarlet fever, typhoid fever and diphtheria combined; that in America 1,200,000 people have the disease at all times, or one in fifty persons.

Dr. Mullins, of Sydney, Australia, reports for a period of twelve years, 17,114 deaths from tubercular disease in New South Wales. Of these 12,430 were from phthisis, 2241 from tabes mesenterica, 1325 from tubercular meningitis, and 1018 from other forms of tuberculosis. During the year 1898, in the state of New York alone, there were 12,979 deaths due to consumption; of this number, 7825 were in the city of New York.

BOVINE TUBERCULOSIS TRANSMISSIBLE.

Dr. Charles Creighton emphatically says: "I can not escape from the conviction that the peculiar errors of nutrition in the domesticated bovine species all over the world are the real fountain and source of human tubercle."

A strong confirmation of the view that bovine tuberculosis is transmissible, at least to young children, is contained in the fact that the mortality of children under five years of age from primary tubercular ulceration of the intestines, and from tuberculosis of the peritoneum and mesenteric glands (tabes mesenterica), is very high.

According to bacteriologic investigation, the bacilli of bovine tuberculosis have been found to be identical with those found in tubercular formations in the human organs, although the disease is anatomically different in man than in cattle. These differences are considered due to differences of soil in the human and bovine tissues, the bacilli engrafting themselves in those tissues which present conditions most favorable to their growth and development.

It has been found that the milk of tuberculous cows containing tubercle bacilli, when administered as food, produced tuberculosis in dogs, guinea-pigs and rabbits.

WHAT STATISTICS PROVE.

Woodhead states that in 127 cases of tuberculosis in children examined by him he found tubercular ulceration of the intestine in 43; whilst in 100 cases, or nearly 79 per cent. of the whole, the glands connected with the intestinal tract were in some stage or other of tubercular degeneration. Woodhead contends that tuberculosis connected with the intestine is of frequent occurrence in children, infection frequently taking place by the alimentary canal.

It is a curious fact that wise men occasionally fall into errors, strange and unaccountable. I trust that the error recently made by Dr. Koch, at the British Congress

of Tuberculosis, that bovine tuberculosis is not infectious to man, will not retard the action and movements of scientists against the dangerous infection from bovine tuberculosis. If Koch does not believe the identity of human and bovine tuberculosis, we will simply refer him to the observations of Tscherming of Copenhagen, Pfeiffer of Weimar, Law of Cornell University, Williams of the Brompton Hospital, Cozette of Noyon, France, and many others who report infectious cases of bovine tubercular infection.

ILLUSTRATIVE CASES.

Tscherming relates the case of a veterinary surgeon, who cut his hand while making a postmortem examination on a tuberculous cow. Although the wound healed, a swelling remained which became ulcerated and refused to heal. Eventually, the whole mass was removed, and microscopic examination revealed the presence of tubercle bacilli. Pfeiffer relates a similar case of a veterinarian, aged 34, of good constitution and free from hereditary taint, who wounded himself deeply in the left thumb. The wound healed, but about six months afterward a cutaneous tuberculosis was diagnosed at the site of the scar. A year later the patient manifested undoubted signs of pulmonary tuberculosis; the sputum was found to contain tubercle bacilli, and the patient died two and a half years after receiving the wound. Postmortem examination revealed tubercular arthritis of the wounded thumb, and extensive tubercle and cavities in the lungs.

Law reports another case of a veterinary surgeon, who was wounded in the hand while operating on a tuberculous cow, and suffered from a tumefaction of the resulting cicatrix, with distinct tubercle bacilli. The tumefaction was surgically removed, and was evidently the means of saving the patient from a generalized tuberculosis.

Cozette, a French veterinarian, relates where a consumptive attendant had infected two cows, which, when handed over for slaughter, were condemned because of their markedly tuberculous condition; however, those two had infected seven others, who became ill, and were killed. Autopsies demonstrated clear cases of tuberculosis.

Law cites the case of a healthy child, aged one and a half years; while at a relative's house for one week it drank the milk of a cow which soon afterwards was condemned and killed. Autopsy revealed generalized tuberculosis. The child gradually emaciated, death occurring three months later from abdominal tuberculosis.

Professor Gosse of Geneva cites the case of his own daughter, who died from intestinal and mesenteric tuberculosis, which he attributed to the milk the girl drank daily, fresh from five cows, on his estate. They were all slaughtered and two of them showed tubercular disease of the udder.

Demine of Berne reports the case where four infants in the Hospital Jenner, whose parents were all healthy, with no tuberculous history, died of intestinal and mesenteric tuberculosis as the result of drinking the unsterilized milk of tuberculous cows.

Brouardel likewise records a case where five out of fourteen young girls living together in a boarding-school became consumptive, subsequent to the daily use of milk from a tuberculous cow. We could cite hundreds of similar cases to convince our friend Dr. Koch of his mistaken ideas of bovine tubercular infection.

Now, if the lactile secretion is infectious, there can be no doubt that the meat from animals which suffer from even a localized tuberculosis is not fit for human consumption; furthermore, we have ample proof that a localized tuberculosis will naturally find its way into the muscular structure or other parts of the carcass used as a food; therefore, such meat should and must be condemned.

IMPORTATION OF DISEASED ANIMALS.

Most all civilized countries have and should have some laws for the prevention of importation of epizootics by foreign live animals. Limited space and other considerations naturally prevent long periods of quarantine or observation and detention of those animals intended for exhibition or re-shipment, or for other special purposes. Many infected animals are slaughtered at the port of arrival, and suspected live animals are frequently excluded.

In 1848, the English Legislature employed numerous means to prevent the importation of sheep, cattle and other animals suffering from contagious or infectious disorders, and gradually further powers were granted until their consolidation and perpetuation in the Contagious Diseases (animals) Act of 1869. Great devastations continued as the result of epizootics, and serious legislative efforts were made until again codified in the existing Act of 1876, to which amendments were added in 1884, 1886 and 1890; so that, as in certain human communicable diseases, the contagious diseases of animals are also subject to compulsory declaration, isolation, and disinfection, with the additional powers of prohibited importance, quarantine and slaughter.

GOVERNMENTAL CONTROL.

In July, 1891, a congress for the study of tuberculosis in man and animals was held at Paris, and the following resolutions were passed:

"It is necessary that all governments should decree the most efficacious prophylactic measures for preventing the extension of bovine tuberculosis. It is urgently necessary to establish a special inspection of meat in all towns, without exception, provided with a public abattoir. It is equally necessary to suppress all private slaughter-houses in towns containing more than 5000 inhabitants, and to replace them, as soon as possible, by public abattoirs; effectual inspection is impossible without this measure."

Tubercular subjects, man and beast alike, should be subject to quarantine restrictions; and its control should be part of the duties of either a national, state or municipal board of health.

The expectoration of sputum of tubercular patients should be prohibited in public places, public vehicles and even on the highways. If the oral secretion is infected with tubercular deposits and dries on the floor it is likely to pulverize and float about as dust; thus inhaled, it is a means of spreading tuberculosis. It may be difficult at first to enforce such an ordinance, but a law of this sort will certainly have a moral effect, and eventually an educative action on the public, who will consider it indecent and disreputable to spit in public places. It will likewise educate the public to look upon public spitters with contempt.

The National Board of Health, which was established in 1878, was appointed and supplied with grants by the Federal Government, which enabled the board to institute investigations of great importance regarding the causation of disease, etc., has unfortunately, through political prejudice, withheld its influence, so that very little practical work has been done, and was finally abolished. But the Marine-Hospital Service, with the late

Dr. John B. Hamilton, and the present Dr. Walter Wyman at the head of that department, protected the country against foreign importation of infectious and contagious diseases.

TUBERCULOSIS SANATORIA.

S. A. Knopf, of New York, before the Conference of the State and Provincial Boards of Health of the United States, delivered an address upon the state and municipal care of consumptives. He believes that a commission should be provided for the examination and care of tuberculous subjects; to determine their physical condition; to investigate their surroundings and the dangers to their families; to render their homes sanitary, if possible, and, if necessary, to endeavor to remove the patients to an institution. Anyone should have the privilege of being examined, and all physicians should have the privilege of recommending patients for examination. The institutions for the care of these individuals should comprise a reception hospital and dispensary, located in the city; a suburban sanatorium, in an elevated region, if possible, this to be used as a temporary hospital for patients subsequently to be sent to a mountain sanatorium, which should, if possible, be elevated from one thousand to two thousand feet above sea level. There should also be seaside sanatoriums for the treatment of children with tubercular disease of the joints and glands, and a maternity sanatorium.

Knopf also quotes the greatest authorities of the world, who are in favor of such a movement—Dettweiler, Leyden, and Liebe of Germany; von Schrotter of Austria; Grancher, Letulle and Petit of France; Weber, Lindsey and Sangmann of Denmark and Sweden; and in the United States, Bowditch, Hamilton, Biggs and Prudden, Lee, Trudeau, Flick, Hinsdale, Otis, Shrady and others, all strong advocates for the establishment of state and municipal sanatoria for the care and treatment of the consumptive poor.

The crowned heads of Europe, such as the Czar of Russia, the Empress of Austria, the King of Saxony, the King of Sweden, and the young Queen of Holland, have placed the sanatoria for the consumptive poor under their high protection, and have opened their private purses for their support. The nobility and the leaders in finance, art, and literature have been eager to imitate the noble example set by their sovereigns, and the latter, too, have given freely toward the erection and maintenance of such institutions.

Thus, in the countries just mentioned, a number of establishments now flourish which are doing a world of good by curing the curable tuberculous cases, and taking care of the hopeless ones, thus diminishing countless centers of infection.

Dr. Knopf justly says: "Let me further advise the statesman, physician or philanthropist who doubts the need of such institutions in the United States, to visit the consumptive poor in the tenement districts of our large cities, and study the hygienic and social conditions of these sufferers in their surroundings."

NATIONAL BOARD OF HEALTH AND EXAMINERS.

It is the duty of every citizen, as well as of the physician, to insist that our National Congress establish a medical bureau of the Department of the Interior, for the purpose of regulating the various professions that battle for the welfare of suffering humanity.

First, to establish a federal board of medical examiners, under the auspices of a medical bureau of the Department of the Interior, so that any physician, dentist or pharmacist may follow his profession in any part of the United States, or in any of its territories, thus granting the privilege to its citizens to invite a physician or dentist from any part of this country to ameliorate their sufferings.

Second, under the auspices of the same bureau, there shall exist a national board of health, consisting of men of learning and ability, competent to make bacteriologic and chemical examinations, for the purpose of preventing the spread of the various contagious and infectious diseases, the adulteration of food, and the sale of infected cattle, and to restrict the sale of the so-called patent medicines.

Third, the bureau shall have jurisdiction over the registration of births and deaths, census and vital statistics in general.

REGULATION OF MARRIAGE.

It is also desirable to have a national law pertaining to marriage and divorce. The unfortunate conditions of either, each state having its own laws, demand immediate action of Congress for the regulation of this evil.

Marriage should be prohibited to blood relations up to the second degree, and to all persons of either sex affected with either congenital or acquired specific or infectious disease, such as venereal or pulmonary affections, confirmed drunkards, criminals, anarchists and degenerate classes.

Each applicant for a marriage license should present a certificate from a medical examiner, appointed for that purpose, stating that the applicant is not affected with any disease or habit that would be derogatory to procreation or offspring. When parents are tainted with specific disease, it is almost invariably looked for and expected with the children. A taint of hereditary drunkenness, insanity, suicide, epilepsy, idiocy, deaf-mutism, cancer, syphilis, gout, rheumatism, tuberculosis or scrofulous diathesis in the blood, are all symptoms of degeneration, likely to be intensified by propagation in succeeding generations, until the tainted family becomes extinct. Intermarriage with those tainted diffuses weakness, deformity, and abnormality through the social structure, deteriorates and contaminates all who issue from such unions.

Intermarriage of distinct diseases are as dangerous as the union of two consumptives. A typical case, cited by Richardson, will corroborate this statement: "A young man, of marked cancerous proclivity, married a woman whose parents had both died of pulmonary consumption. This married couple had a family of five children, all of whom grew up to adolescence, sustaining at their best but delicate and feeble existences. The first of these children died of lupus; the second of simple pulmonary consumption; the third, owing to tubercular deposit in the brain, succumbed from epileptiform convulsions; the fourth, with symptoms of tubercular brain disease, sank from diabetes, the result of the nervous injury; and the last, living longer than any of the rest, namely, to thirty-six years, died of cancer. The parents in this instance survived three of the children, but they both died comparatively early in life: the father from cancerous disease of the liver, the mother from heart disease and bronchitis."

While we have some states prohibiting consanguinous unions, there are others that have not kept abreast with modern civilization, and allow the marriage of near kin. There is not a physician who is entitled to that name who does not know the physiologic reason for prohibiting

consanguinous marriages; but for the benefit of those who do not know, I will state that besides degenerations, a marriage between persons closely allied in blood is apt to produce an offspring feeble in body and a tendency to insanity in mind.

As to confirmed drunkards, I can only repeat what Plutarch says—"One drunkard begets another"; and Aristotle adds: "Drunken women bring forth children like unto themselves." Dr. Howe, in a report to the Legislature of Massachusetts, says: "The habits of the parents of 300 of the idiots were learned, and 145, or nearly one-half, are reported to be known as habitual drunkards." Howe cited a case in which the parents were drunkards, and had seven idiotic children.

PROPHYLAXIS AGAINST ANARCHY.

Another dangerous disease with which the world has to contend, and which has lately shocked our nation, and in fact the whole world, is anarchy. The murderous assault upon the President, aimed as it was at the life of the government, imperiled the security of the whole country. The right of self-preservation is as vital to the State as to the individual.

The entrance of foreign anarchists must be strictly prohibited as well as other infectious matter. Their teachings are as poisonous as the bite of a snake, and as dangerous as the swords and bayonets of a hostile nation. The pestilence of the teachings of the anarchists who dwell amongst us can not but have influence upon their offspring; therefore there must be a law preventing their marriage. The characters possessed by an individual are mainly congenital, peculiar to each individual in type and variation; therefore, the offspring bear a typical likeness and character to the parents.

Criminals and murderers may regret and repent their crimes, confess and receive absolution, and, after their execution, may go direct to heaven; but society is better off with such individuals in heaven than on earth.

A great deal can be said in favor of a national law of divorce. But what mainly interests us is the medical portion. According to medical jurisprudence, impotence in man and sterility in woman, or any impediment to procreation of children, is absolute ground for divorce; however, what we desire to add is that specific and infectious disease endangering offspring shall likewise constitute grounds for divorce.

PUBLIC BATHS.

The public bath is another necessity to municipal hygiene. The ruins of the caracallas of Rome speak clearly of the glorious bathing establishments of the fifth century; though in a state of decay, yet they show the inclinations and habits of the people who prevented municipal filth. It is said that Rome had at one time 856 public baths. In the Middle Ages nearly every village and town is said to have had its bathroom with wooden tubs. Russia, Turkey and Japan are renowned for their public baths, which are accessible to the poorest classes upon the payment of a very slight fee.

France, Belgium and Austria have kept apace with other countries. The United States, unfortunately, has done very little towards this hygienic problem. The only baths provided in this country by municipalities are a few floating or swimming baths in New York and in Chicago. The New York baths were authorized by the Legislature of that state. About twenty such establishments exist in that city to-day. Another act in the Empire State, in 1892, authorized any city, village or town in the state to establish public baths, and to loan, credit or make appropriations for that purpose. I trust that the great state of New York will continue its good work, and that other states will follow. It is admitted, that if you deprive a man of his bath you lower his moral tone: "soapology" and "scrubology" as well as "theology" are recognized by General Booth, of the Salvation Army, as potent Christianizing agencies.

RESTRICTION OF VENEREAL DISEASES.

Compulsory examination of prostitutes is another necessity for the purpose of preventing the spread of venereal diseases. It is said that either the City of New York or Chicago contains, at the present day, venereal infection sufficient to contaminate the male population of the United States in a very short space of time.

We do not want legalized prostitution as it exists in European countries. I do not believe in authorizing houses of debauchery and making of prostitution a regular profession. The State has no right to regulate prostitution. I am proud of my country, which is fortunately free from the incubus of State regulated vice.

All that is desired is a state law for municipal governments, to keep a register of all women known or suspected of prostitution, and that such women shall be liable at any time to be called in for examination. But no certificates should be issued to them, as to their healthy or unhealthy conditions, for such a certificate would simply encourage the vice. However, if found affected with a venereal disease, they should be sent to a detention hospital or sanatorium, and should be detained there until cured.

DETENTION OF SYPHILITICS.

I firmly believe in the law of Massachusetts, for the detention of certain persons affected with syphilis, in which it is enacted that persons suffering from syphilis, and being inmates of any correctional or administrative institution, such as a house of correction, a penitentiary, or a work-house, shall be placed under medical treatment, and be isolated until the medical attendant shall consider further isolation unnecessary; and if, at the date of discharge of a person, syphilitic symptoms are still present, likely to prove a public danger, compulsory detention may be put in force to retain the infected person until such a time as dangerous symptoms have been pronounced to be no longer present.

A suitable hospital or sanatorium devoted to diseases peculiar to prostitutes should be established in each and every city, with the power to place and keep there all women so diseased until cured. The amount of accommodation required should depend upon the size of the population, and there should be at least one bed to every thousand inhabitants. Payment could and should be required from all who possess the means of expense actually incurred, and this would contribute a considerable sum towards the expenditures of such an institution.

It should not be intended as a prison, for such is directly contrary to reformation. Liberal arrangements as a hospital would afford no encouragement to vice, and certainly help wonderfully to eradicate the evil.

ABOLISH THE CORONER.

There is one law, a relic of barbarism, that I should like to see abolished, and I know that the profession would heartily approve of it; that is, the office of county coroner; and in its stead a medical examiner should be created. Such a law was established in Massachusetts

about fifteen years ago, and gives great satisfaction from both a scientific and financial point of view.

CONCLUSIONS.

All foregoing regulations, if established, will, I am sure, tend to improve the moral and physical welfare of our Nation.

State Medicine is a creation of necessity in times of public danger, but its future development will be in proportion to the scientific character of its work, and to the appreciation on the part of the public of the economic and beneficent results of such work.

The world's rapid transit and intercommunication brought on the high state of civilization, and made the whole human race one family, so that people of every color, clime, language, government and creed have become one brotherhood, with a law of love and care for one another which fulfills the golden rule—"love your neighbor as you do yourself."

Original Article.

A SIMPLE AND ACCURATE METHOD OF OUTLINING THE STOMACH.

WILHELM BECKER, M.D.
MILWAUKEE.

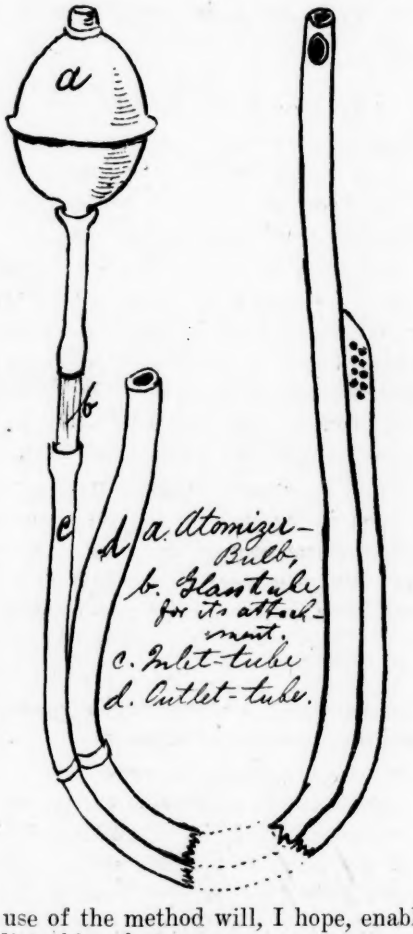
The determination of the outlines of the stomach has always been and always will be a matter of great interest to the gastro-enterologist. It is not necessary to name and describe the advantages and disadvantages of the various methods of outlining the size of the stomach, nor will space allow me to do this.

During the last two years I have tried a simple and accurate method which has given me great satisfaction. By its employment I have determined the size of the stomachs of about three hundred patients of all varieties. A considerable number of these patients were free dispensary patients of the Milwaukee Medical College and I take this opportunity to extend my thanks to Prof. W. H. Nielson for generously placing the gastro-contingency of the college clinic at my disposal.

The following is a short description of the method: The patient's stomach is washed out in the ordinary way. Turck's double tube is best used for this purpose. About two hundred c.c. of clear water are left to remain in the stomach. Next, the patient is placed in a horizontal position upon a table with the tube *in situ*. An ordinary atomizer bulb is attached to the inlet tube. The outlet tube is firmly compressed. This compression is best effected by kinking the outlet. Then a stethoscope is placed over the region of the stomach; air is gently introduced by compressing the atomizer bulb. As the air enters the stomach, passing through the stratum of water which has been left in the organ, a gurgling sound will be produced thereby, which is heard very distinctly with the stethoscope or even by immediate auscultation. In moving the stethoscope downwardly towards the supposed borderline of the stomach, the sound produced will be entirely different as soon as the stethoscope is beyond the border, i. e., the sound will be muffled and indistinct. The difference between the sounds over and beyond the stomach is very marked and even a relatively inexperienced one will not fail to see the difference.

After the stomach is moderately distended, the outlet tube is relaxed and the air let out again. The whole procedure is repeated until the borderline of the organ has been ascertained in all directions, the lesser curvature as well as the greater, the right as well as the left border. In trying to ascertain the location of the lesser curvature, however, it is advisable to attach the atomizer bulb to the outlet tube, since the gastric end of this lies farthest away from the cardia and thereby modifies the sound which would otherwise be too loud to admit of a fine discrimination.

It is essential that the organ should be slightly distended. Organs flabby and empty will transmit the sound easily into the surrounding tissues and organs, the same is true of hollow viscera, distended to the utmost. I would therefore advise not to lose sight of these details, since failure to do so has often marred the clearness of the findings and may be a source of error for the inexperienced. There are other conditions which at times seem to be disturbing factors. I have up to the present time been unable to locate them or to ascertain what they are, and I admit that sometimes the results of this method are not as satisfactory as might be desired.



Continued use of the method will, I hope, enable me to find these disturbing factors.

In conclusion, I would like to point out some advantages of the method.

It requires a simple apparatus and simple technic.

It is more accurate, simpler and less cumbersome, both to physician and patient, than gastro-diaphany.

It is less painful than percussion after distension with CO_2 or air; and since the distension is only a partial one, it will not, as the over-distension for percussion often does, give exaggerated outlines.

It has lately been tried to outline the colon by using a similar method, but I do not anticipate as favorable results as in the case of the stomach.

The findings by means of this method were controlled with Turck's gyromele, the percussion method and on the cadaver. In the cadaver, results are less satisfactory.

Trinity Hospital.

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From the fact that our forms are now closed on Wednesday afternoon, we make no attempt this week to give the proceedings of the American Medical Association. The official report will appear in next week's issue.

THE ADDRESS OF THE PRESIDENT.

Dr. Wyeth's presidential address, which is published in this issue, is suggestive in a number of ways. His suggestion of the need of a uniform standard of medical qualification is brief but timely, and should receive the earnest attention of the profession generally. If its sentiment on this point is strongly and generally voiced, the end will be attained, if not at once, at least at an early date. That it is practicable is beyond question, as our Canadian neighbors have demonstrated. The remarks on section papers and on branch organizations are likewise intimations of what must commend itself to every one. The recommendation of permanent places of meeting, while doubtless not novel to everyone, is worthy of serious consideration whatever may be the outcome of the discussion. The present inadequacy of the Army medical force and the prospect of matters becoming worse before they are better, are living questions not only to medical men, but to all who have the welfare of our country and its soldiers at heart. We believe the Association, both in the session and through its individual membership, will speak with no uncertain voice on this matter. The present status is an illustration and a result of our lack of influence as a profession, due, as he says, to insufficient methods of education and to our lack heretofore of thorough organization. We cannot always, with human nature as it is, prevent quacks gaining the confidence of the public, but we can make ourselves more respected when our essential standards of qualifications are uniformly more respectable and when we have shown that we possess in our professional and civic capacities influence that no one can despise or disregard. All these are possible and we may say are realities of the future, but we need not passively wait for them to come to us.

These are only part of the suggestive features of the address; it is a valuable summary of the leading and living questions to be considered at the present session of the Association. Some of them are to be definitely settled in the near future, others, it may be, only in the remote future. We owe it to ourselves and to all those whose welfare we have at heart, to see that the outcome is not in any way a disappointment.

GAS LEAKAGE IN LARGE CITIES.

There has been a widespread feeling for some time that the immense amount of gas leakage known to take place from the gas mains of large cities constitutes not only a serious menace to property, because of the possibility of explosions and the added risk of fire entailed by the presence of so inflammable an agent, but also a manifest danger to health because of the contamination of the atmosphere of houses by a very poisonous element. At the last meeting of the New York County Medical Society new light was thrown on this interesting subject from the standpoint of the gas expert as well as the physician. Some of the data furnished are rather appalling. The information has evidently been jealously guarded up to this time. When it is realized that gas leakage in such cities as London, New York and Chicago amounts to many million feet of gas per day, some idea is obtained of the enormity of the risk to property and life involved.

Gas leakage is constantly on the increase, and so far no serious consideration has been given to it and no precautions taken to secure mitigation of the evil. Even the boards of fire underwriters confess that they have found gas companies too well entrenched in the legislatures for them to be able to secure legal enactments that would protect cities from the possible effects of the present enormous leakage. The fact of the matter is that it is cheaper for gas companies to pay for this costly item of waste rather than thoroughly relay their leaking mains in such a way as to prevent the loss. Gas mains, as a rule, when originally laid were not of material well calculated to stand the wear and tear of soil conditions for a long term of years. Nor were they primarily intended to carry the amount of gas that latter-day demands have necessitated. Leakage is in inverse ratio to the size of the pipe used to convey gas, but in most cities extra mains of comparatively small diameter have been laid rather than single large mains that would be so much safer. Besides, gas has become more and more dangerous as its manufacture has cheapened. The original coal gas contained about 7 per cent. of the very dangerous ingredient, carbon monoxid. At the present time water gas forms almost exclusively the basis for illuminating gas, and in this product over 30 per cent. of the gaseous materials consist of the odorless, treacherous carbon monoxid.

Street conditions, too, have served to increase the dangers from gas leakage. Most city streets, especially in residence districts, are covered with asphalt. This is, as a rule, impervious to gas and, as the sidewalks as now constructed are equally so, the escaping gas finds its easiest exit from the confined space beneath the pavement through the walls of contiguous houses. Some of the gas, it is true, finds its way into sewers and creates dangers for the workmen in manholes and excavations

or, because of its very high diffusibility, gets into the sewer pipes of houses and finds an avenue even into living rooms. During the process of filtration through the soil the deadly water gas becomes separated from the naphtha compounds with which it was mixed in order to give it illuminating power. It is to these naptha elements that gas owes its characteristic odor. The soil filtration then concentrates the poisonous qualities and removes the only danger signal. The gas is even more diffusible when thus stripped of its carburetted elements. It is not hard to understand, then, how great is the danger from such gas diffusion. In the winter, particularly when the ventilation of basements is imperfect, whatever gas finds its way within the walls becomes mingled with the house air. Even a very small percentage of carbon monoxid causes air to become an actively depressant poison.

At the meeting of the New York County Medical Society Dr. Lloyd called attention to some cases in which it seemed clear that the breathing of gas-contaminated air was the cause for certain obscure pathologic conditions with symptoms of anemia and headache accompanied by febrile disturbance and obstinate to all medical treatment. These cases occurred in small groups in both sexes and yielded to treatment only after removal of the patients from the house in which they had been living. Careful examination of several of the houses showed the existence of serious plumbing defects. It is rather generally conceded now that the evil effects of so-called sewer-gas are really due to contamination with carbon monoxid from escaped illuminating gas. It has long been known that even small proportions of carbon monoxid in inspired air may cause anemic conditions with nervous complications. In a series of lectures delivered in Berlin some three years ago,[1] Prof. Ernest Grawitz, the well-known clinical authority on blood diseases, suggested prolonged gas poisoning as a cause even for progressive pernicious anemia. The greater frequency of this disease in large city life in recent years suggests the possibility of some such cause being at work. The severe secondary anemia in individuals of unstable blood equilibrium, so prone to develop in city residents, might well be due to this hitherto ignored factor.

There is no doubt that this question furnishes important material for careful consideration by the boards of health of all large cities. The amount of gas leakage from city mains should be an item constantly on file for sanitary officials. Physicians should be able to find out from authentic data how much gas is escaping in a given district. The quality of the gas furnished should also be a matter of record, so that there may be some control of the amount of the cheaper, but far more poisonous water gas supplied. This material is being used in increasingly large proportions by gas companies. For the sake of public health, gas companies need to be aroused from their present apathy with regard to these extremely important subjects. If necessary legislative enactments should be secured to regulate the abuses which have apparently been allowed to reach too great proportions without proper protest.

1. International Clinics, Series 9, vol. II, p. 72.

CITY CHILDREN DURING THE SUMMER.

The problem of what to do with city children during the summer has been much discussed and much good has resulted therefrom. When we remember how high the mortality among young children in large cities rises during the hot months, we can appreciate how important it is to do as much as possible to reduce it. Children whose parents are able to take them into the country, to the seashore or to the mountains during the summer are most fortunate. The great majority of city children, however, must stay at home all summer, and among the poor the mortality from summer diseases becomes very great. The efforts which are being made to provide better conditions for such children who live in crowded quarters are most commendable and deserve hearty support. A recent writer has said that the most noticeable movement in educational lines of recent years has been the rapid development of vacation schools and playgrounds in all the great cities of America. While a comparatively small, open playground is by no means a complete substitute for the country, it is a great improvement upon a narrow, dusty, dirty street with its street cars and other traffic. Many children die each year in cities from injuries by street cars and other vehicles, sustained while playing on streets. Children must play somewhere, and if suitable playgrounds were provided, many of these accidents could be avoided.

While the lot of the poor child in the crowded city during the summer is always sad, it is particularly so when the child is so unfortunate as to be sick. Efforts to get sick children away from the city heat have resulted in the saving of many lives.

The particular method adopted for accomplishing this have varied with the location and surroundings of the city. The new floating hospital or hospital boat planned for Boston is to be most complete. It is to be 192 feet long, 44 feet wide, and is to have four decks. The equipment in every particular is to be equal to that of a first-class hospital on land.

In other cities hospitals and sanatoriums are placed upon piers, so that the little patients have the advantage of fresh, cool air from the ocean or from one of the great lakes. The effect of such air upon sick children is simply marvelous, and those who are rapidly losing ground in their unsanitary, hot homes begin at once to improve after their surroundings are changed. Improved milk supplies have done much to diminish gastro-intestinal diseases among city infants, and practical philanthrophy has found a most useful employment in furnishing pure milk to poor families at a nominal price.

With improved sanitary conditions, pure foods and more fresh air, the infant mortality in cities will be much lower than it is at present, and this will in some measure compensate for a lower birth rate.

THE STIMULUS OF SUNLIGHT.

The effect of sunlight on population has been studied by M. Lugeon in the Canton Valais, Switzerland, and a brief statement of his results is given in *Science*, June 6. He finds that in the principal valley of the canton, between Martigny and the Rhone glacier, there is a marked difference in the populousness of the two sides of the valley; that most exposed to the sun having decidedly the largest population, and this does not appear to altogther depend upon the physical conformation, but he is inclined to attribute it mostly to the different exposure to sunlight. With one or two exceptions all the villages are on the sunny side of the valley and the dwellers on that side form a sort of aristocracy, being more prosperous and better educated and look with some contempt on their poorer neighbors on the shady side. In one village there are actual caste differences corresponding to the difference of exposure to sunlight of the dwellings. Of course, this may be largely a matter of voluntary selection; the abstract is not complete as regards possible physical differences in the people, but the publication of the study is suggestive from a medical as well as from a sociologic point of view.

VACATIONS FOR CITY PEOPLE.

With the beginning of summer the city dweller begins to look forward to his summer outing in the country, and he plans how to escape as much of the heated season in the city as possible. Each year witnesses a more general tendency for business houses to give their employes a chance to spend a short time in the country during the warm months, and a half-holiday on Saturday during the summer has become almost universal. Provisions are made in many cities by which working girls and boys, who are unable to pay for a summer outing in the country at the usual prices, are allowed to obtain it free or at a slight cost. It is impossible to estimate the value which such vacations possess in preserving and restoring health, and if employers fully realized the fact that more and better work can be done by fresh and healthy employes than by exhausted and depressed ones, much more attention would be given to providing the workers with opportunities for more recreation, not only during the summer, but throughout the year, by giving a weekly half-holiday, and by requiring shorter hours of work at such times as business would allow it.

THE INFLUENCE OF VARIOUS BATHS UPON GASEOUS INTERCHANGE.

It has been contended that the hot bath acts especially as a counter-irritant or derivative measure, exerting almost specific influence in the presence of capillary bronchitis, and being comparable to a mustard-plaster applied to the entire body. To determine the part played by the irritation of the skin and also the effect upon the gaseous interchange Dr. H. Winternitz[1] undertook at the Medical Clinic of the University of Halle a series of comparative observations, as a result of which he found that under the influence of sand-baths there occurs such a marked increase in the consumption of oxygen and in the production of carbon dioxid as to exceed considerably that attending even highly febrile processes. At the same time, as compared with hot baths, the increase in bodily temperature is moderate and the change in the general condition slight. Saline baths cause inconsiderable increase in oxidation processes, while baths exerting a markedly stimulating influence upon the skin—such as mustard-baths—cause considerable increase in heat production, in the absorption of oxygen and in the production of carbon dioxid. Absorption of carbon dioxid takes places in carbonated baths, and this is of significance for therapeutic purposes. Sulphurous baths are without effect upon the gaseous interchange

1. Deutsches Archiv für klinische Medicin, 72 B., 3 u. 4 H., p. 258.

REACTIONS AMONG MENTAL HEALERS AND FAITH CURISTS.

Some recent reactions in circles previously devoted to the entire repudiation, not to say villification, of medical science are worth noting. First: Newspapers report that vaccination has been allowed in Dowie's "Zion," and that this leader, being unable to save his own daughter from a painful death, sought the services of a practicing physician. Second: While cases, of course, are not published, owing to established professional ethics, it is well known to the profession that physicians are nowadays often being consulted by Eddyites, even by prominent members of the sect, and that occasionally some of these are to be found in our hospitals. Third: The lecturer for a certain mental-healing society tells her followers distinctly that if they need a physician they had better go to one. However, this advice apparently contains a covert reflection on their inability to be helped by mental influence. Fourth: On account of the learning and practical life of the editor, the most dignified authority on current theory and practice of mental healing is a monthly periodical called *The Higher Law*. For the last year or two its pages have shown more and more acknowledgment of the physical factors in disease. It has been stated there that mental healers are specialists, that the whole truth lies deeper than mental healers have sounded. It is explicitly proposed that believers in the allness of the mind should study physiology, and so get a look at things from a new standpoint. "If a mind-curer helps you, well and good. But do not hesitate to learn from the best doctor at hand."[1] Whether it involves hypocrisy and insincerity, or whether it is accomplished by honest steadying of the reasoning powers, it seems by all these signs that the light of common sense is sure sooner or later to break through any cloud of fanatic prejudice or wilful ignorance which may be raised in these days when so many of the real facts about disease can be readily known.

THE CURATIVE ACTION OF FLUORESCENCE IN MALARIA.

The various forms of phototherapy and radiotheraphy have excited much attention recently and are being given extensive trial in various diseases, especially of the skin. Dr. A. F. A. King in recent articles[2] brings forward a number of facts to show that the curative action of quinin in malaria may be due to its fluorescence where-

1. Editor's Study. The Higher Law, May, 1902.
2. Americ. Journ. Med. Sc., February and June, 1902.

by it produces violet rays of light in the blood. King starts from the assumption that the malarial ameba like *Ameba proteus* streams in red light, but not in violet, hence quinin would arrest sporulation of the malarial parasite. As further evidence, King cites the fact that two other vegetable products, namely esculin and fraxin, both of which produce a blue florescence, are effective remedies for malaria. King then goes on and shows that in 1886 Henry Bence Jones discovered a fluorescent substance in the tissues of guinea-pigs and of man, which substance he called animal quinoidin. Rhoads and William Pepper of Philadelphia two years later took up the question, suggested by Jones, whether there might not be a rapid and marked diminution of normal "animal quinoidin" in malaria diseases, and they found that the fluorescence of the blood of malaria patients is below the normal standard. Furthermore, that this fluorescence is increased by quinin at the same time as the symptoms improve. Mills, in 1875, supports this conclusion. In order to explain the malignant cases of malaria in which quinin fails to cure, King recounts the fact that in these cases the parasite remains hidden in the dark recesses of the body where the fluorescent property of quinin cannot come into play. In these cases sporulation occurs very irregularly, probably because the crescents do not secure sufficient light to sporulate simultaneously in sufficient numbers to generate regular paroxysms. He explains the paroxysms of ordinary ague as the result of sporulation of a number of parasites contained in red corpuscles which are so swollen as to be arrested in the capillaries of the skin, thus exposing the parasites to the light of the sun, the subsequent changes in the skin favoring the repetition of this process. This theory is ingenious and interesting. One obscure point in the exposition concerns the cause of the diminution of the normal fluorescence by malaria. No explanation is offered in regard thereto. Furthermore, it seems a little difficult to account for the regularity of the paroxysms by this theory. The reactions of the malarial parasite to various forms of light certainly seem important enough to merit further study.

ICE PURIFIED IN THE MAKING.

The old idea that ice is purified frozen water receives considerable substantiation through recent investigations. Researches on this subject which were begun in 1888-89 under the direction of the Massachusetts State Board of Health[1] and concluded in 1899-1900, demonstrate the mechanical influence of crystallization in purifying water. Experiments in the physics of freezing natural or artificial ice show the tendency which there is for substances in either solution or suspension in the water to be thrown out of the forming ice. So far as bacteria are concerned it seems these researches show that when the freezing begins at the top, as in the case of winter ice, and does not go to the bottom 90 per cent. and upwards of the bacteria are eliminated. But in ice which includes all of the water, as in shallow pools or in artificial ice, all of the bacteria present are, of course, necessarily included. This agrees with the well-known trick of those ice manufacturers who use impure water and then tap the center of each block before complete consolidation in order to draw off that portion of the water in which the impurities are perceptibly concentrated. In commenting on these valuable researches H. W. Hill[2] calls attention to two other factors which, by the work of Winslow and Park, are proved to tend strongly towards the purity of ice. First, typhoid bacilli, the most dreaded bacteria of water supplies, are destroyed to the extent of 90 per cent. by a temperature of a little above O C, a temperature which water passes through just before it freezes, and then, second, in ice itself some 90 per cent. of any typhoid bacilli included die out during the first 24 hours. In a longer time even a greater purification occurs. By reason of all these factors being at work it is claimed that given 1,000,000 typhoid bacilli in a certain quantity of water, all but 100,000 would be expelled by the mechanical process of crystallizing that water, of the remaining all but 10,000 would be killed at the special temperature mentioned, and, finally, only 1,000 would survive a sojourn of 24 hours in the ice itself. This amounts to a purification of 99.9 per cent.—an extremely successful filtration. We may conclude from all this that natural ice properly cut so as to avoid the uppermost layer, which is often impure from matter originally floating on the water and by later accretions from above or by flooding from below, is comparatively innocuous. Particularly at this season of the year it is decidedly comforting to be assured on competent authority that infection through ice is not much to be dreaded.

1. Thirty-second Annual Report, 1901.

THE EYESIGHT OF CHILDREN.

Comment has often been made, much more so in the past than now, on the large number of persons in American cities, including even many children, who wear glasses, and it has been suggested that this state of affairs is the expression of a fad or of a bit of affectation or of avarice on the part of the oculist. The fact is, however, that as a result of our indoor habits, demanding constant use of the eyes at short range, ocular defects that would otherwise cause no trouble and thus remain concealed become manifest as eyestrain in one form or other. To the credit of American ophthalmologists be it said that they were among the first to appreciate the significance of such eyestrain, and to the correction of its causes they have given most assiduous, intelligent and successful attention. We think it may be stated without fear of contradiction that no better refractive work—including muscle-equilibration—is done than that of the ophthalmologists of the United States. As a result of observations made upon children in the public schools the relatively large preponderance of ocular defects has been amply demonstrated and some investigations made by a competent Swiss oculist[1] tend to show that similar conditions exist among the schoolchildren of continental Europe. In the course of examinations into the eyesight of 19,947 children in the public schools of Zurich during the eight years from 1884 to 1902 defective vision was found in 19.1 per cent. of this number, in the following percentages: hyperopia, 1.2; myopia, 0.9; astigmatism, 8.6; spasm of the ciliary muscle, 1.4; strabismus and amblyopia, each 1; corneal

2. Johns Hopkins Hospital Bulletin, April, 1902.

1. Adolph Steiger: Lancet, May 3, 1902, p. 1287.

maculæ, 1.3, and various other defects 1.5. It is uncertain from the accessible report whether a cycloplegic was employed invariably or at all in making the examinations, but the statement that an exact ophthalmometric examination of eyes with defective vision was an absolute necessity for the detection of the large number of cases of astigmatism suggests at least that paralysis of the ciliary muscle was not induced as a rule. It seems also that only those children may have been examined who complained of defective vision or apparently had impaired eyesight. In accordance with the results of the examination, written instructions were given in the case of each child, defining the distance of the seat from the window and from the blackboard, the use of spectacles, etc. The parents were informed when the eyesight was defective and were referred to an ophthalmologist for treatment. The Germans certainly deserve credit for valuable contributions to both the theory of optics and the practical application of optical principles, but they have been slow to make such application to the measurement and adjustment of glasses for the correction of errors of refraction.

Medical News.

DISTRICT OF COLUMBIA.

The New Surgeon-General.—Colonel William H. Forwood, assistant surgeon-general, United States Army, has succeeded Dr. George M. Sternberg as surgeon-general.

Surgeon-General Sternberg's Retirement.—After forty-one years of service in the Army Dr. George M. Sternberg retired, June 8, with the rank of brigadier-general.

University of Georgetown Commencement.—On May 29, the fifty-third annual commencement exercises of the medical department were held, a class of 13 receiving diplomas from Rev. Jerome Daugherty, S. J., president of the University. Colonel Charles Smart, assistant surgeon-general, U. S. Army, delivered the Toner address, and Dr. Joseph A. S. Regli was valedictorian.

Marine-Hospital Positions.—A board of officers will meet at the Marine-Hospital Bureau, Washington, D. C., June 16, to examine candidates for admission to the grade of assistant-surgeon in the U. S. Marine-Hospital Service. Candidates must be between 21 and 30 years of age, graduates of a reputable medical college, and must furnish testimonials from responsible persons as to character.

Public Health and Marine-Hospital Service.—The Senate bill to increase the efficiency of the Marine-Hospital Service by making it the Public Health and Marine Hospital Service, has been favorably reported by the House Committee on Commerce. It continues the present service with the changes of title and with functions pertaining to public health, as well as to marine hospitals. In time of war authority is given the President to utilize the service for military purposes. Provision also is made for co-operation between the Federal and State health and quarantine authorities by means of conferences.

ILLINOIS.

Chicago.

Dr. Gehrmann Resigns.—After an honorable service of ten years, Dr. Adolph Gehrmann, director of the laboratory of the Chicago Department of Health, has resigned and will take complete charge of the bacteriologic and hygienic departments of the Columbus Medical Laboratory.

Students Object to Convocation.—At a recent meeting of the senior class of Rush Medical College, the members objected to the order providing that they receive their diplomas with the academic students at the general convocation, and decided that they preferred a special graduation for the medical department.

Iowa College Alumni Meet.—At the meeting of the Chicago Association of Alumni of the Iowa State Agricultural College, held at the Sherman House, June 6, physicians were much in evidence. Dr. William E. Gamble, president, acted as toastmaster, and Drs. Elbert C. Fortner and Burton Rogers responded to toasts.

Alumni Week at Northwestern.—For the week from June 16 to 21, the alumni committee of Northwestern Medical School has arranged a schedule of clinics, and the wives of the alumni are tendered receptions on four afternoons. The alumni banquet will be held at the Auditorium, June 17, the thirty-sixth annual meeting of the alumni association in Davis Hall, June 18, and the commencement exercises at the Auditorium, June 19.

Increased Death Rate.—An increase of the death rate, amounting to a little more than 11 per cent. over that of the previous week and of about 10 per cent. over that of the corresponding week of last year, is noted in the returns to the registrar of vital statistics, for the week ended June 7, the total, 472 deaths, being forty-nine and fifty-nine, respectively, in excess. The increase is entirely in the ages at the extremes of life, under 1 year and over 60 years of age, at which periods the sudden alternations of temperature produce the most untoward effects.

The Effect of the Drainage Canal.—"What may be expected for the betterment of the public health when the sanitary drainage channel is in full operation and the intercepting sewers are completed has been gratifyingly foreshadowed during the last few weeks," says the report of the commissioner of health. "Contrary to past experience—that is prior to the diversion of the Twelfth and Twenty-second street sewers in 1898, by which all sewage north of Thirty-fifth street to the main river is excluded from the lake—the heavy rains of May failed to affect the sanitary quality of the public water supply to any material extent and there has been no such increase of the impure water diseases as uniformly followed such rains in the past. A most reassuring experience was that of the closing of the dam at Lockport on June 3, on account of the cloudburst at Joliet and vicinity. Although the current of the river was thereby turned back into the lake for several hours, at the rate of some 250,000 to 270,000 cubic feet per minute, the water from all tunnels remained pure until Saturday. This unhoped-for result dispelled the apprehension felt by the earlier promoters of the drainage channel lest a reversal of the current from any cause, but especially from heavy rains, should result in a pollution of the water supply. It is now seen that the continuous current scours the river bottom, so that there is little or no accumulation of sewage or sewage deposits wherever the current reaches. The pollution that now occurs from time to time is due entirely to the sewage from the lake emptying sewers flushed out by heavy rains."

MARYLAND.

Baltimore.

Mortality for the Week.—There were 185 deaths for the week ended June 7, consumption leading with 34.

Fellowships at Johns Hopkins.—The following have been appointed fellows at the Johns Hopkins University for the next year: Ernest G. Martin, Ph.B., St. Paul, Minn., Hamlin University, 1897, physiology; Roy McLean Van Wart, Montreal, Canada, A.B. University of New Brunswick, 1898, pathology, and the Adam T. Bruce fellowship in biology has been awarded to Mr. Reinart Parker Cowles, Los Angeles, Cal.

The Quarter Club reports $2294 collected toward the Sanatorium for Consumptives. The club was founded, February 14, with the purpose of establishing in the Blue Ridge Mountains a modern sanatorium for the treatment of tuberculosis. Many of the churches have helped the cause, especially the synagogues. The money raised will be placed in the hands of the commission on tuberculosis which is to be appointed by the Governor.

Personal.—Dr. Henry H. Flood, physician to steamers, left for New York, June 4, to sail for Norway.——C. E. Brush, Jr., student in the Johns Hopkins University Medical School, will be a member of the biological party sent by the New York University to White's Island, in Hamilton Harbor, Bermuda, for the study of marine fauna this summer.——Dr. Robert A. Ravenscroft, Accident, Garrett County, has been nominated by the President as surveyor of the Port of Baltimore.——Dr. William Osler has entirely recovered his health. He will not go abroad as usual this summer, but will spend the summer in Canada.

Public Baths.—The public baths inaugurated through the liberality of a wealthy citizen, Mr. Henry Walters, have proven a great success. At Bath No. 1, which has been in operation

two years, the attendance increased from 69,774 monthly the first year to 87,000 the second year. Several days this year already 1000 bathers have been accommodated and many have been turned away. The commissioners are considering an increase in size of this bathhouse. Each adult is charged three cents for towel and soap and each child 1 cent. The receipts from this source at Bath No. 1 in two years were $5000. The two bathhouses are open the year round, and Mr. Walters has offered to erect a third. The three outdoor baths are now in good shape for the hot weather. An outdoor bath for women and girls on the water front is also contemplated.

MICHIGAN.

Grand Rapids Medical College graduated a class of 17, June 2.

New Hospitals.—Lockwood Hospital, Petoskey, will be opened for patients soon after July 1.——A site has been secured for a modern hospital in Negaunee.

Cornerstone of New Battle Creek Sanitarium Laid.—The cornerstone of the new sanitarium at Battle Creek was laid with appropriate ceremonies, May 11. The new building will, it is said, be the largest sanitarium in the world. It will be 550 feet long, five stories high, and is to be made as nearly fireproof as modern science can make it. The contractors have promised to have it completed October 1.

Malpractice Suits Fail.—In the damage suit for $10,000, brought by George R. Steele, Mt. Clemens, as executor of his deceased wife's estate, against Drs. Henry G. Berry and Harry F. Taylor of Mount Clemens and Dr. Angus McLean of Detroit, Judge Tucker ordered a non-suit, May 22.——Judge Law of Port Huron summarily terminated the suit of Robert Bartell of Capac against Dr. Ephraim J. Buck for $10,000 on account of alleged malpractice on the grounds that the plaintiff had not made out his case.

NEW YORK.

New City Hospital at Ogdensburg.—The new city hospital at Ogdensburg was consecrated, May 27, and Mayor George Hall, who contributed $20,000 toward its erection, delivered the keys of the institution to Bishop Gabriels.

Personal.—Dr. Allen A. Jones and wife, Buffalo, will spend two months in travel abroad.——Dr. Max C. Breuer, Buffalo, sails for Europe in a few days and will spend three months in post-graduate study at Breslau.——Dr. James H. Burtenshaw, New York, has been appointed adjunct professor of gynecology at the New York Polyclinic Medical School and Hospital.

Registration of Nurses.—The recently-organized New York State Nurses' Association is considering the question of registration which will ultimately place training schools for nurses under the supervision of the Board of Regents, the idea of the registration being the protection of the public against impostors and a raising of the standard of the various training schools.

New York City.

The New York Ophthalmic and Aural Institute, under charge of Dr. Herman Knapp, is to move from its old quarters in East Twelfth Street to a new edifice on Central Park West and Sixty-fourth Street.

Cornell Medical Graduates.—At Carnegie Hall on June 4, 42 men and 9 women received diplomas from President J. G. Schurman of Cornell University. This was the first class to take the full course in medicine under Cornell auspices. The address to the class was made by Dr. T. Gaillard Thomas.

The Summer's Work Among the Poor.—Dr. Herman M. Biggs, chief medical officer of the Department of Health, has submitted a report of the work of the summer corps of physicians, who attend the sick in the crowded tenement districts during the summer season, and a prospectus of the work planned for this year. It is proposed to increase the number of physicians from 42 to 75, and to begin the work about June 15, instead of July 1, as heretofore. To meet the extra expense this will necessitate Health Commissioner Lederle has asked the Board of Estimate for a special appropriation of $10,000, in addition to the $10,000 provided by the legislature for the Borough of Manhattan and $5000 for Brooklyn. It is proposed to extend the work of the summer corps this year to include vaccination in the tenement houses and measures for the prevention of malarial fever, which Dr. Biggs says is increasing steadily in Manhattan and Brooklyn despite the fact that it is distinctly a preventable disease.

PENNSYLVANIA.

Philadelphia.

For Jewish Hospital Nurses.—Mrs. Sarah Eisner has offered to donate a sum not exceeding $20,000 for the purpose of erecting and furnishing a suitable building, to be known as the "Elsner Building for Nurses."

Hospital Beneficiaries.—The will of Valentin Geng, of Upper Darby township, Delaware County, probated at Media, June 3, bequeaths $30,000 to charity. The hospitals which are beneficiaries are: St. Mary's Hospital, Philadelphia; Presbyterian Hospital, Philadelphia; German Hospital, Philadelphia, and Jewish Hospital, Ogontz, $5000 each, and the Chester Hospital $1000.

New Chair of Clinical Medicine.—Drs. Julius L. Salinger and Thomas G. Ashton have been elected to the new chair of clinical medicine established by the Board of Trustees of the Jefferson Medical College. The new chair is in reality a split-off from the former professorship of theory and practice of medicine held by Professor James C. Wilson. Dr. Wilson will become professor of medicine under the new arrangement, which becomes effective when the college year opens, next October.

GENERAL.

Cholera in Manila continues to be reported at the rate of three to ten cases a day. The natives cause great trouble by concealing cases of sickness.

Naval School Goes to Washington.—The medical school at the Brooklyn Navy Yard has been ordered transferred to Washington, D. C., in accord with the plan of the government to make the latter city the home of Federal education. Rear Admiral Rixey, surgeon general of the navy, said that the Navy Department proposed to assign to this school immediately after appointment every young medical officer who enters the service. He will there be grounded in the rudiments of his work as a naval officer and will also be given an opportunity to complete his professional education. Older medical officers will eventually be assigned to the school, but this can only be done when an increase of the corps is granted by Congress. One of the great advantages to follow the establishment of the school in Washington is that it will enable officers to attend the lectures given by army officers at the Army Medical College and those given by experts of the Department of Agriculture.

Smallpox.

Illinois: During May smallpox was reported in 33 counties and in 55 localities.

Chicago: Twenty new cases of smallpox were discovered during the week ended June 7, of which number 12 were colored persons, and at the close of the week there were 55 cases under treatment in the Isolation Hospital, 14 having been discharged. Of those now in the hospital 24 are white and 34 are colored, a proportion of 44 per cent. of the former and 56 per cent. of the latter. And yet the colored form only 1.3 per cent. of the total population. Not one of the colored persons showed any sign of having ever been vaccinated, and among the whites only one, who had a faint scar, forty years old.

Maryland: The State Board of Health has been formally notified of the prevalence of smallpox in Williamsburg, Dorchester County. The postmaster and station-master are both down with the disease. No mail will be delivered and no trains will stop there, so that the town is practically cut off from the world. The health officer of the county, Dr. Steele, diagnosed the disease as genuine smallpox, though of a mild grade.

New York: Twenty-five cases of smallpox have developed in Gowanda, N. Y., and it is feared two of those afflicted will die. A case of what was supposed to be chicken-pox developed in the family of Adelbert Stage. It was later diagnosed as smallpox. Members of the family have been in attendance at the public schools, exposing every pupil. Schools, churches and the theater have been closed. There are at present about 30 cases in Hope Hospital, Rochester. "During the last five years and including the present outbreak we have had but three patients who had ever been vaccinated," says Dr. George W. Goler, health officer. "At the hospital now there is but one patient that has been vaccinated and that one is a woman 30 years old who was vaccinated when an infant and has not been vaccinated since."

Puerto Rico: The epidemic of varioloid at Arecibo is now well under control. Several weeks ago there were 150 cases and now the medical officers report that there are only about 50.

FOREIGN.

Yellow Fever in Mexico.—An epidemic of yellow fever of a virulent type has broken out at Vera Cruz.

Victim of Plague.—Dr. Wray, L.R.C.P. and L.R.C.S. Edin., 1870, who was government medical officer of Brisbane, Australia, died from plague, May 9.

Exposition of Appliances Used in Medical Instruction.—Berlin is holding an exhibition of aids and appliances for the instruction of medical students.

Another Charlatan Fined in Germany.—The courts at Zittau condemned to a fine of 100 marks and costs, the manufacturers of an emulsion that was claimed to be a cure for tuberculosis.

Deaths Abroad.—Dr. K. F. Skrzeczka, Geheimer Ober-Med.-Rath, at Steglitz, May 20.——T. v. Kazmarsky, professor of gynecology at Budapest.——L. Secretan, professor of internal medicine at Lausanne.

Tuberculosis Sanatorium in Australia.—The foundation-stone of the new convalescent home for consumptives at Northwood, N. S. W., was laid, May 13. The home will have 100 beds. The funds are from an anonymous gift of $500,000.

Personal.—Dr. Herman Bryan, who has been resident physician at the Chester (Pa.) Hospital for the past year, will sail, June 21, for China, to assume charge of the hospital of the Presbyterian board of missions at Hai Nan, south of Hong Kong.

Hospital Collection in Sydney.—An annual event in Sydney is the collection taken for the hospitals, the entire city being canvassed by the women. The government gives an amount equal to the total sum raised. The collection this year on May 3 was nearly $20,000.

Seegen Prize for Biologic Research.—Professor J. Seegen has given 5100 marks to the Vienna Academy of Sciences, to be awarded as a prize for the best work on the problem whether a portion of the nitrogen of the albuminates in the organism is excreted in gaseous form through the lungs or the skin. The competing articles must be in German or French and be received by the Academy before February 1, 1904.

Is a Child Viable that Lived Twenty-five Days?—The French laws of inheritance through the offspring are involved in a case at present in the courts. After a pregnancy of six and one-half months, the mother died during childbirth and the child died after remaining alive twenty-five days in the incubator. The mother's dowry returns to her family if the child was not viable. Otherwise, it is shared by the husband.

Physician Awarded Damages.—The Belgian courts recently awarded $100 damages to a physician of Dijon who had been assaulted in his office and bitten in the thumb by a young man whom he knew to be syphilitic. He sued for $20,000. The medical experts testified that the young man was not in the contagious stage of syphilis, and the court awarded damages for merely the time lost by the physician, who refrained from practicing until the experts had examined the young man.

Death of Kussmaul.—Germany celebrated, on February 20, the eightieth birthday of Adolf Kussmaul and now the cable brings us the news of his death. He was professor at Heidelberg, Freiburg and Strassburg in turn, and after the age limit had been extended in order to keep him, finally retired to Heidelberg. He was the son of a physician and spent many years in his youth in practical research in pathologic anatomy which laid the foundation for unusual achievements in later life. His explanation of the essence of the epileptic seizure is one of the corner-stones of our present knowledge and his work on "Disturbances in Speech" forms part of von Ziemssen's "Manual of Special Pathology." His studies of tetanus and bulbar paralysis, congenital anomalies of the uterus, paracentesis in pleuritis, periarteritis nodosa, diabetic coma and embolism of the mesenteric artery are well-known works, but his widest fame rests on his research on the stomach functions and his introduction of the stomach pump as a means of treating dilatation of this organ. The stomach pump opened a new era for the study not only of the pathology but of the physiology of the stomach. One of his most important contributions to science is his famous article, "die peristaltische Unruhe des Magens, das Platschgeräusch und Galle im Magen." He published not long ago a fascinating book of reminiscences, "Memories of the Youth of an Old Doctor." His only son died before him.

LONDON LETTER.

The Smallpox Epidemic.

The number of cases of smallpox in the metropolitan hospitals, which had been 1515, 1442, 1419 and 1360 in the four preceding weeks, further declined this week to 1344; 307 new cases were admitted during the week against 250, 248 and 233 in the three preceding weeks.

Vital Statistics in 1900. Lowest Birth Rate on Record.

The annual report of the Registrar General on England and Wales has just been issued. The births numbered 927,062, equal to an annual rate of 28.7 per 1000—the lowest on record since the establishment of civil registration in 1837. The rate is 1.3 below the average rate in the ten years 1890-1899. The decline in the birth rate has been continuous since 1895, when it was 30.2 per 1000. The death rate was 18.2 per 1000 against 17.4, 17.5 and 18.2 in the three preceding years; the mean rate in the ten years 1890-1899 was 18.3. The proportion of deaths of infants under one year to registered births was 154 per 1000 against an average of 153 in the ten preceding years. The mortality from alcoholism was 132 per million among males and 95 among females, both of which are the highest rates recorded. The mortality from cancer has continuously increased in recent years; in 1900 it was 16 per cent. in males, and 10 per cent. in females in excess of the decennial average, and in each case exceeded the highest previously recorded. The mortality from pulmonary tuberculosis was considerably lower than in the preceding ten years, the decrease amounting to 2 per cent. among males and 12 per cent. among females. A very curious fact is that a marked decline in the marriages of widowers and widows has been in progress for the last thirty years. In 1871-75, of 1000 marriages 138 were of widowers and 100 of widows; in the successive quinquennial periods the numbers are respectively 136 and 98, 126 and 89, 119 and 83, 112 and 79; in the year 1900 the decrease is greatly accentuated, the numbers being 94 and 68.

Labor Casualties.

The annual report of the Chief Inspector of Factories and Workshops for 1901, which is just issued, forms a most interesting and valuable record of the casualties of peace, which during the year amounted to 83,760. Fatal accidents were fewer than in 1900, amounting to 1035 against 1045. This is the first interruption of the increase which has gone on year by year from 455 in 1895 to 1045 in 1900. The report shows, with certain reservations, continued improvement in the methods of fencing machinery. There were several serious explosions, the most disastrous being that of spirit vapor in the drying stove of a felt hat works whereby 14 lives were lost. Continued advance has been made in securing means of escape in case of fire. A satisfactory decrease in lead poisoning is recorded, which is mainly due to improvement in two trades—white lead and pottery. But in certain branches of manufacture, particularly in the making of electric accumulators, there has been a marked increase of plumbism.

Plague in Sydney.

According to a telegram of May 24 there have been 126 cases of plague in Sydney and 33 deaths. Fifty-three cases have been cured and there are 40 in hospital. Rats seem to have been the source. A plague-infected rat was found in a block in which no case had occurred. It is feared that a large number of infected rats are at large. The disease has attacked the animals in the Zoological Gardens. In April, 21 quadrupeds and some birds died suddenly. It has been proved that the majority of the marsupials died of plague; the cause of death of the other animals is not known. The gardens are near the principal garbage pit whence the rats come.

Abstaining Doctors.

The British Medical Temperance Association, which has just met in annual congress, bears witness to the gradual increase of medical abstainers. According to the twenty-sixth annual report there are in England and Wales 307 members and 120 student associates. Several leading physiologists have been gained by the association. In conjunction with the American Medical Temperance Association the British association intends to publish a manifesto declaring that experiments have proved that even a small quantity of alcohol prevents perfect mental action and interferes with the tissues and cells, and that a moderate quantity taken for a number of years produces gradual deterioration of the tissues and hastens senile changes.

The Etiology of Leprosy; Commensal Communication.

At the Royal Medical and Chirurgical Society Mr. Jonathan Hutchinson made a communication on this subject based on the experiences gained in his recent tour in South Africa. A preliminary notice of his views has already been given (THE JOURNAL, April 26, p. 1091). Among other conclusions Mr. Hutchinson has arrived at the following: 1. Leprosy was al-

most if not absolutely unknown in South Africa before the Dutch occupation of the Cape and their introduction of Malays from Java to establish a fish factory at Capetown. 2. Salt fish and rice was the staple food of the Dutch farmers and their Hottentot slaves at the time leprosy was first observed, in 1756. The disease first spread around Capetown, then over South Africa. 3. Leprosy prevails very slightly in towns (unlike highly-infectious maladies) but affects chiefly agricultural laborers. Though widely spread, the disease is unequally distributed—dotted about among the mining and agricultural population of Cape Colony, who use very largely badly-cured salt fish. 4. In the Kaffir kraals of Natal the disease is communicated from person to person by eating food from a leper's hands contaminated by food containing the bacillus. The disease is not contagious in the ordinary sense of the term, but only in this special manner, which Mr. Hutchinson proposes to call "commensal communication." He thinks that the two hypotheses of fish production and commensal communication together explain the difficulties hitherto felt in regard to leprosy, such as its not spreading in civilized communities, its irregularity and uncertainty even among the most careless, the frequency with which young children suffered, the universal but varying disproportion of the sexes, and the scattered distribution without, as in South Africa, any foci of great prevalence. The facts in favor of the view that the bacillus is received through the stomach are very strong. The first symptoms are those of a blood disease. There is never a primary sore or other indication of local infection. The earliest phenomena, whether of the skin or nervous system, are, as a rule, bilateral and imply blood communication. It is impossible to believe in communication by the breath, for attendants in leper houses and others in constant and close communication with lepers never take the disease. Similarly, contagion through the skin is incredible. Husband and wife rarely suffer together; many inoculation experiments have failed. Such contamination of food as described could only occur under conditions of extreme carelessness in feeding. Hence, among the cleanly communities of Europe and America, the disease was not communicated.

Correspondence.

The Prevalence of the Individual Communion Cup.

PHILADELPHIA, June 6, 1902.

To the Editor:—Your recent editorial reference to the encouraging progress in the adoption of individual communion cups, among other things pertaining to church hygiene, prompts me to submit the following figures, which give an approximation of the status of the movement nearly to date:

About 1500 churches, representing nearly 600,000 communicants, are now using individual cups, and would not revert to the commonly-used cup. About 70 per cent. of these churches are of the Baptist, Congregational and Presbyterian denominations, and nearly equally distributed among these three. The Christian (Disciples), Lutheran, Methodist and Reformed churches follow in about equal proportion. There are a few Protestant Episcopal, Universalist, Swedenborgian, and other scattered denominations using the cups.

Almost three times as many churches now use individual cups as compared with 1898. The reform began in 1894, when hardly a score of churches were using them. By far the greatest proportion of churches are in New York, Pennsylvania, and the New England states. However, the states of the middle west are rapidly increasing in the number of these churches, while Colorado and California have many in the list. It may be interesting to note that one or more churches have made the change even in Mexico, Porto Rico, the Sandwich Islands, Japan, Burma and New Zealand.

It is extremely rare that any antagonistic official action is taken by ostensibly representative ecclesiastic bodies, the matter usually being left to each local church to investigate and decide. The only opposition that has come to my notice for many years was lately that of the Lutheran ministerium meeting at Easton, Pa., at which its action of 1895 was reaffirmed, condemning the use of individual cups, apparently for dogmatic and ritualistic, certainly not for cleanly or sanitary reasons. The Church of England is taking more than transitory interest in the matter of a sanitary administration of the communion, as witnessed by the church papers and the London *Lancet*, and the suggestions regarding the revival of the ancient custom of intinction, or of each communicant dipping a piece of bread into the wine. Very truly yours,

HOWARD S. ANDERS, M.D.

A Voluntary National Examining Board.

ORANGEBURG, S. C., June 3, 1902.

To the Editor:—It strikes me that the idea of a Voluntary National Board of Medical Examiners would be feasible. There might be a central examining board at Washington, consisting of leaders in the profession, while there could be subsidiary boards holding their meeting in various geographical centers of the country, say at New York, Chicago, Atlanta, St. Louis and Denver. These subsidiary boards (as well as the central board at Washington if desirable) could be elected by the National Confederation of State Medical Examining and Licensing Boards, and should consist of members of the state examining boards or men suggested by said boards—one for each state in each subsidiary district. The central board at Washington could be elected by the American Medical Association or the Confederation from recognized professional leaders. Under this arrangement the local or state boards could recognize the certificates of the central or subsidiary boards, and if not legally now, could soon secure such amendments in each state to render such recognition permissible. I believe some such arrangement as this to be entirely feasible and the solution of the whole matter.

WILLIAM R. LOWMAN, A.M., M.D.

An Addition to Dr. Montgomery's Article.

CHICAGO, June 6, 1902.

To the Editor:—Will you do me the favor to publish the two following foot-notes, which by mistake were omitted from the article on Cutaneous Blastomycosis published in the last issue of THE JOURNAL:

"In photographing cultures, Tube 18 (Fig. 32) was accidentally substituted for an almost identical growth on glycerin agar, the plan being to show the variations of the organism on the same medium. The mistake was not discovered in time to secure a new cut."

"Figs. 17, 19, 26, 28, 29 and Figs. 36 to 41 are from sections and cultures prepared by a former assistant, Dr. H. T. Ricketts, from our Cases 3, 4, 5, and 8, on which cases he did most of the laboratory work for us."

Case 12 should have a reference to the foot-note appended to Case 13. Very truly yours,

FRANK HUGH MONTGOMERY.

Miscellany.

Dysentery.—The *Cleveland Medical Journal* comments on the researches of Simon Flexner and his students, which, he says, have proved beyond doubt that "the acute American dysentery is identical with the corresponding disease of other temperate regions and of the tropics, and is caused by the same micro-organism." Flexner holds out strong and immediate hope that as a result of these studies there will shortly be presented to the world a well-tested and curative serum that will protect against the disease and mitigate an attack. He goes further and hints that Vedder and Duval have produced such a serum which now only awaits thorough trial before being finally announced. As dysentery is one of the most widespread of diseases and as, especially in hot climes, it is the direct cause of a great number of deaths, this discovery, if finally confirmed, will be of an amount of good to mankind that will hardly be second to that which has come from the discovery of vaccine and of diphtheria antitoxin. "Thus the specters pass."

The Principles of the American Medical Association.—Nations, governments and societies owe their stability, strength and progress to the association of individuals whose aims are

worthy, whose aspirations are high, whose designs are wise and whose purposes are steadfast, who thus may hope to reach the goal of their ambition and win the object of such organization. How does the American Medical Association respond to this test? 1. Worthy aims: The union of all the members of our noble profession of every state and territory in a representative society for the scientific study of all that relates to our profession, the public welfare and the nation's good, as well as the cultivation of social good-fellowship. 2. High aspirations: The attainment of the highest ideals in medical education and practice, and the application of the golden rule in dealing the one with the other. 3. Wise designs: The presentation at the annual meeting and through the columns of THE JOURNAL, free from all sectarian narrowness, of the results of individual efforts and the latest progress in our arts. 4. Steadfast purposes: The indefatigable pursuit during the past fifty-four years of these ennobling precepts has added constantly to our numbers and influence, and advanced our knowledge and the scientific character of our work, which is studied and assimilated by our brethren throughout the world.—*N. Y. State Jour. of Medicine.*

Married.

F. GOODWIN DU BOSE, M.D., to Miss Aimee Nelson, both of Selma, Ala., June 11.

CARL ANSON CLEMONS, M.D., to Miss Marie Gunther, both of New York City, June 4.

J. CHESTON KING, M.D., Atlanta, Ga., to Miss Mary Barr of Homewood, Ala., June 5.

FRED J. HART, M.D., Barrie, Ont., to Miss Nellie Bain of Winnipeg, Manitoba, June 4.

WILLIAM D. INGLIS, M.D., Claysville, Pa., to Miss Alice Cockins of Canonsburg, Pa.

R. W. JONES, M.D., Wausaukee, Wis., to Miss Helen Worthington, of El Paso, Ill., June 4.

DANIEL J. HEALY, M.D., Lexington, Ky., to Dr. Louise Bergman of Louisville, Ky., June 15.

JOSEPH LYON MILLER, M.D., Thomas, W. Va., to Miss Pamelia Dorcas Hampton, at Ashland, Ky., June 3.

Deaths and Obituaries.

Joseph Eastman, M.D.

"In the death of Dr. Eastman, June 5, the community loses a surgeon of renown and a citizen of prominence. His life was a life filled with constant work and bearing the fruits of such work in things accomplished and good done. He won the respect and esteem of his day and generation, the love and affection of all that knew him well. The end coming still in the prime of life might seem untimely, but no life ends untimely that has been filled with devotion to duty."

The medical profession of the United States will unite in endorsing the eulogy of Dr. Eastman with which this notice begins. His services to medicine and surgery, and especially abdominal surgery, were inestimable, and his personal qualities were such as to make him beloved of all who knew him.

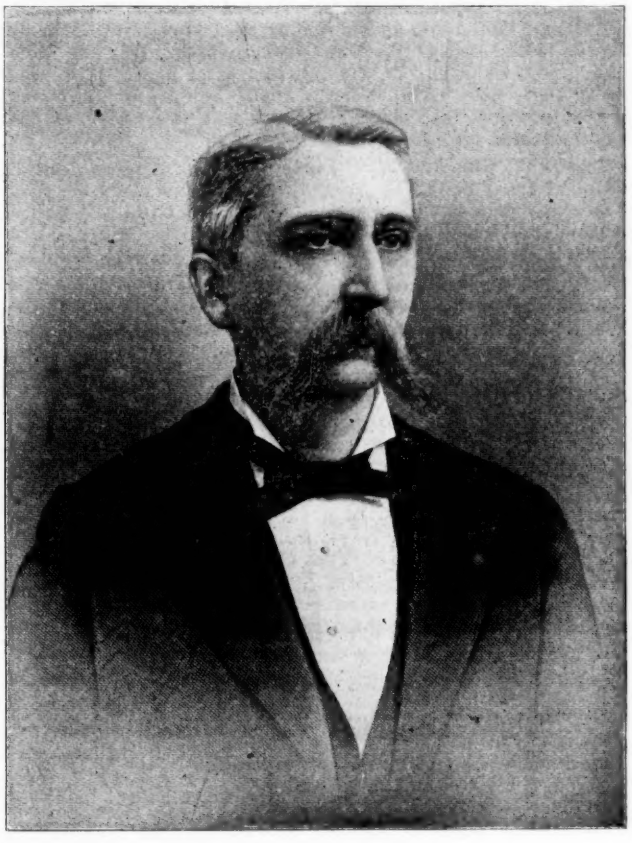
Joseph Eastman was born in Fulton County, N. Y., January 29, 1842. At the outbreak of the Civil war he enlisted in the Seventy-seventh New York Volunteer Infantry, and after an attack of typhoid fever was put on light duty at Mount Pleasant Hospital, Washington, D. C. Here he showed such ability as a nurse that he was appointed hospital steward in the army. During his service of three years he attended medical lectures at the University of Georgetown, was graduated in 1865, and at once passed the examination for the Army and was commissioned assistant surgeon of volunteers. In this capacity he served until mustered out in May, 1866.

He settled in Brownsburg, Ind., and practiced there for seven years, during which time he attended lectures in Bellevue Hospital Medical College, New York, from which he was graduated in 1871. Four years later he was made demonstrator of anatomy in the College of Physicians and Surgeons, Indianapolis, and moved to that city. For nine years he was consulting surgeon to the Indianapolis City Hospital, and for eight years thereafter, assistant to Dr. Theophilus Parvin.

In 1879 Dr. Eastman was one of the organizers of the Central College of Physicians and Surgeons, Indianapolis, and accepted the chair of anatomy and clinical surgery. After having taught anatomy in both colleges for seven years, a special chair was established in the Central College of Physicians and Surgeons—that of diseases of women and abdominal surgery—which he held up to the time of his death. For several years he was president of this college. After 1886 he limited his practice to diseases of women and abdominal surgery.

He was a frequent contributor to medical literature. In 1890 he was a delegate to the International Medical Congress at Berlin, and in 1893 was chairman of the Section of Diseases of Women in the American Medical Association at its Milwaukee meeting. He had been a member of this association since 1872, and from 1894 to 1900 was a member of its board of trustees.

About a year ago Dr. Eastman became ill and the disease was eventually diagnosed as malignant disease of the liver. Nothing could be done to stay the progress of the disease, and he died, June 5, at the age of 60.



JOSEPH EASTMAN, M.D.

His funeral was held, June 8, under the charge of George H. Thomas Post, G. A. R., of which Dr. Eastman was a member. The Marion County Medical Society held a special session, May 6, at which memorial addresses were made by Drs. G. W. H. Kemper and George R. Greene, both of Muncie; Dr. Barnett Wallace of Franklin, and Indianapolis physicians. At a meeting of the faculty and alumni of the Central College of Physicians and Surgeons, presided over by Dr. John T. Scott, the following resolutions were adopted:

"*Resolved*, That the faculty and alumni of the Central College of Physicians and Surgeons have met with an inexpressible loss in the death of Dr. Joseph Eastman, who was not only the father of the institution, but the most beloved and respected teacher and friend of all its students. His unequaled skill as a surgeon, his able lectures, his world-wide reputation, his lofty character, his wonderful success achieved by his own efforts and indomitable courage in spite of great obstacles have been a large part of the glory of this college in the past and will be an inspiration in the future."

William G. Bibb, M.D. Vanderbilt University, Nashville, Tenn., 1877; Bellevue Hospital Medical College, New York, 1878, one of the foremost physicians of Alabama, died at his home in Montgomery, May 31, from paralysis, after a long

illness, aged 48. He practiced in Montgomery until 1881, when he was elected professor of materia medica and therapeutics in the Medical Department of the University of Tennessee, Nashville, and removed to that city. In 1897 he was particularly active in combating yellow fever, and never recovered from the effects of his exhaustion. In 1899 he was stricken with paralysis. He was a member of the Montgomery County Medical and Surgical Society, which adopted resolutions of respect, sorrow and sympathy.

Dallas Bache, M.D. Jefferson Medical College, Philadelphia, 1860, colonel and assistant surgeon general, U. S. Army, retired, died at his home in San Diego, Cal., June 2. He entered the army as assistant surgeon in 1861 and served in the field during the entire Civil war. After the war he was stationed for a time in San Francisco, and for a number of years was the chief surgeon of the Department of the Platte, with headquarters at Omaha. Later he was stationed at Washington as assistant surgeon general. He remained on duty there until his health failed, and then went to San Diego. He was a member of the Association of Military Surgeons of the United States.

Edwin V. Spencer, M.D. Western Reserve University, Cleveland, Ohio, 1851, an old and beloved physician of Mount Vernon, Ind., died at his home in that place, May 28, from angina pectoris, aged 77. He first located at Beaver Dam, Pa., but in 1857 moved to Mt. Vernon, Ind., where he practiced continuously until his last illness. He was a member of the American Medical Association.

Cloyes W. Gleason, M.D. University of Pennsylvania, Philadelphia, 1844, died at his home in Philadelphia, May 30, aged 81 years. He was the first professor of anatomy and physiology at the Woman's Medical College of Pennsylvania, and had practiced in Philadelphia for 35 years, until his retirement in 1897.

Thomas F. Corson, M.D. University of Pennsylvania, Philadelphia, an assistant surgeon in the Civil war, who served with the Sixty-seventh Pennsylvania Volunteer Infantry, and subsequently a practitioner in Philadelphia, died at his home in Philadelphia, May 29, from septic infection, aged 62.

Milton Bettman, M.D. Johns Hopkins University, Baltimore, 1901, a promising young physician of Cincinnati, who had been doing post-graduate work abroad, died from appendicitis in Paris, after a short illness, May 30, aged 27.

Alfred Lee Royce, M.D. a surgeon in the United States Navy and chaplain of the Naval Home in Philadelphia, recently died from nephritis, in New York City, aged 56.

Societies.

COMING MEETINGS.

Colorado State Medical Society, Pueblo, June 17, 1902.
American Medico-Psychological Association, Montreal, June 17-20, 1902.
Minnesota State Medical Society, Minneapolis, June 18, 1902.
Medical Society of New Jersey, Atlantic City, June 24-26, 1902.
Washington State Medical Society, Tacoma, June 24-26, 1902.
Michigan State Medical Society, Port Huron, June 26-27, 1902.
Medical Association of Nevada, Virginia City, July 7, 1902.
American Ophthalmological Society, New London, Conn., July 16, 1902.

Essex North District (Mass.) Medical Society.—This Society held its annual meeting at Lawrence, May 7, electing Dr. John F. Croston president, and Dr. Maurice D. Clarke secretary, both of Haverhill.

Eastern Oregon District Medical Society.—This Society will meet at Hot Lake, Ore., July 16. Reduced rates have been secured on all O., R. and & N. lines and a large and enthusiastic meeting is expected.

Glynn County (Ga.) Medical Society.—This Society was organized at Brunswick, May 23, with the following officers: President, Dr. Judson A. Butts; vice-president, Dr. John C. Egelston; secretary, Dr. Robert E. Lee Bunford, and treasurer, Dr. W. Churchill Hatcher, all of Brunswick.

Miami Medical Society.—The forty-ninth annual meeting of this Society was held at Loveland, Ohio, May 20. Dr. Con W. Gatch, Milford, was elected president; Dr. Nelson B. Van Winkle, Blanchester, vice-president; Dr. John D. Wakefield, Loveland, secretary, and Dr. Aaron Morris, Goshen, treasurer.

The Alumni Association of the Woman's Medical College has elected the following officers for the ensuing year: President, Dr. Louise Erich; vice-president, Dr. Sue Radcliffe; secretary, Dr. Anna C. Shipley; treasurer, Dr. Jennie N. Broune; executive committee, Drs. Fannie E. Hoopes, Charlotte S. Murdoch, and Mary N. Broune.

Connecticut Valley Medical Association.—The annual meeting of this Society was held in Bellows Falls, Vt., May 13. Dr. Frederick L. Osgood, Townshend, Vt., was elected president; Dr. Gardner C. Hill, Keene, N. H., vice-president; Dr. J. Sutcliffe Hill, Bellows Falls, Vt., secretary, and Dr. Edward R. Campbell, Bellows Falls, Vt., treasurer.

Adams County (Ill.) Medical Society.—At its annual meeting, held in Quincy, May 12, the following officers were elected: Dr. William F. Gilliland, Coatsburg, president; Drs. Edmund B. Montgomery and John D. Justice, Quincy, vice-presidents; Dr. John A. Koch, Quincy, secretary, and Dr. Levin H. A. Nickerson, Quincy, treasurer.

Franklin District (Mass.) Medical Society.—This Society held its annual meeting at Greenfield, May 13. Dr. Halbert G. Stetson, Greenfield, was elected president; Dr. Francis J. Canedy, Shelburne Falls, vice-president; Dr. Benjamin P. Croft, Greenfield, secretary and treasurer, and Dr. Charles Bowker, Bernardston, commissioner of trials.

Good Samaritan Hospital (Cincinnati) Ex-Internes' Association.—The annual meeting and banquet of this body were held at Cincinnati, May 5. The election of officers resulted as follows: Dr. Theodore Potter, Indianapolis, president; Drs. Isaac D. Jones, Cincinnati, Stephen C. Markley, Richmond, Ind., and B. F. Beech, Cincinnati, vice-presidents; Dr. Robin W. C. Francis, Cincinnati, secretary, and Dr. John P. Miller, Cincinnati, treasurer.

Franklin County (Vt.) Medical Society.—The annual meeting of this Society was held in Richford, May 8. The business transacted included a revision of the by-laws, and it was voted to reorganize and affiliate with the Vermont State Medical Society and the American Medical Association, in accordance with the plans, and in compliance with the terms suggested by these bodies. The officers elected were as follows: Dr. E. Paul Lunderville, St. Albans, president; Dr. Eber L. Washburn, East Berkshire, vice-president, and Dr. James N. Jenne, St. Albans, secretary.

Worcester District (Mass.) Medical Society.—This Society held its annual meeting in Worcester, May 14. Dr. Edward W. Taylor, Boston, delivered an address on "Some Fundamental Points in Neurological Diagnosis." The following officers were elected: Dr. Samuel B. Woodward, Worcester, president; Dr. Walter P. Bowers, Clinton, vice-president; George E. Emery, Worcester, secretary; Dr. George O. Ward, Worcester, treasurer; Dr. Roscoe W. Swan, Worcester, orator; Dr. Charles H. Perry, Worcester, commissioner of trials, and Dr. Albert C. Getchell, Worcester, librarian.

Essex South District (Mass.) Medical Society.—The ninety-eighth annual meeting of this Society was held in Salem, May 13. Dr. George Z. Goodell, Salem, read a paper on "Medical Aspects of Salem Witchcraft," and Dr. Ernest W. Cushing, Boston, delivered an address on "The Abuse of Medical Charity." Dr. Charles W. Haddock, Beverly, was elected president; Dr. Edward L. Pierson, Salem, vice-president; Dr. Harry E. Sears, Beverly, secretary; Dr. George Z. Goodell, Salem, treasurer; Dr. George K. Blair, Salem, librarian, and Dr. Justin Allen, Topsfield, commissioner of trials.

Academy of Medicine of Cleveland.—The consolidation of the Cleveland Medical Society and Cuyahoga Medical Society into a new organization, to be known as the Academy of Medicine of Cleveland, has been completed. The Academy is to meet monthly and sections devoted to various branches of medicine and surgery are to be formed. These are to meet from time to time at the rooms of the Cleveland Medical Library. At the first meeting, held May 24, Dr. Frank E. Bunts was elected president; Dr. William T. Howard, vice-president; Dr. Walter H. Merriam, secretary, and Dr. John M. Ingersoll, treasurer.

Iowa Medical Women's Society.—This Society held its annual meeting at Des Moines, May 20. The morning session was devoted to business; in the afternoon Mrs. Ella Hamilton Durley welcomed the visitors on behalf of the City Federation of Clubs, papers were read and officers elected, and in the evening a banquet and reception were held. The following are the newly-elected officers: Dr. Jessie V. Smith, Winterset, president; Drs. Mamie A. Coveny, Clinton, and Sophie H. Scott, Des Moines, vice-presidents; Dr. Agnes Eicheiberger, Sioux City, treasurer; Dr. Jennie McCowen, Davenport, corresponding secretary, and Dr. Mary A. Breen, Lemars, recording secretary.

Alumni Association of Jefferson Medical College.—The annual banquet of this Association took place at the Art Club, Philadelphia, May 28. A hundred members and guests were present. Dr. William H. Hartzell, Allentown, president of the association, was toastmaster. Prof. Edward P. Davis, Philadelphia, responded to the toast "The Faculty"; Dr. George B. McClellan, Philadelphia, "The Alumni," and Dr. John M. Fisher, Philadelphia, "The Demonstrator." Officers of the Association were elected as follows: President, Dr. Thomas D. David, Pittsburg; recording secretary, Dr. Frank C. Hammond; corresponding secretary, Dr. Charles S. Barnes; treasurer, Dr. William M. Sweet, all of Philadelphia.

Greene County (Ohio) Medical Society.—In order to encourage a fraternal interest and to bring the profession into closer unity, the Greene County Medical Society, in celebrating its fifty-second annual meeting, June 5, at Xenia, decided to entertain, and issued invitations individually to the physicians of Clinton County and to every member of the Montgomery County Medical Society. Besides the 30 members of the Society about 75 were present from the adjoining counties. Dr. Charles A. L. Reed of Cincinnati was the Society's honored guest, and presented a preliminary report of original research work relative to "Restorative Treatment of the Uterine Appendages." Following the discussion and banquet an excellent program was carried out.

AMERICAN GYNECOLOGICAL SOCIETY.

Twenty-seventh Annual Meeting, held at Atlantic City, N. J., May 27-29, 1902.

President, Seth C. Gordon, M.D., Portland, Maine, in the Chair.

An Address of Welcome was delivered by Dr. Philander A. Harris, of Paterson, N. J., to which President Gordon responded.

Wandering Spleen.

DR. THOMAS A. ASHBY, Baltimore, reported "A Case of Wandering Spleen Packed in the Pelvis and Complicated by Typhoid Fever; Splenectomy, with Recovery." The author drew attention to the anatomy and function of the spleen. He said its size was influenced by bodily nutrition, the organ being large in the well-nourished, and small in the poorly-fed individuals. In 1887 McCann reported 19 cases of splenectomy, with 13 recoveries. These cases were reported by 18 different surgeons. Sixteen were observed in women, and 3 in men. In properly selected cases there was no doubt that the spleen could be removed with as good results as those which followed the removal of the uterus, the ovaries, or kidney.

The chief interest in his case was from the standpoint of diagnosis. The patient, a young woman, had lived all her life in a malarial section of country, and had had repeated attacks of malarial fever. She had contracted a malarial spleen which, from its increased size and weight, had exercised such traction upon the splenic ligaments as to permit the spleen to wander down into the pelvis, where it became impacted behind the uterus and filled the pelvic basin. How long it had remained in this position there was no way of determining. In the meantime, she became infected with the typhoid organism and developed typhoid fever. In the initial stage of the disease her temperature took a high range, and pelvic pains were soon felt. Her family physician, being called in at once, palpated the abdomen, and finding a large mass in the pelvis, well above the brim, with marked tenderness and high temperature, concluded that he had a large inflammatory tumor to deal with. At this time there were no typical symptoms and there were no typhoid cases in her family or neighborhood. He at once brought the patient to the hospital for treatment. At the time of the first examination the physical signs were markedly those of an inflammatory mass in the pelvis. There was pain on pressure, a doughy sensation to the touch, and the skin over the region of the tumor was so red and shiny that the surface indications were those of a suppurating mass ready to break through the skin. When anesthetized the following morning the physical signs had markedly changed, and Dr. Ashby's diagnosis, before opening the abdomen, was that of an ovarian cyst or myomatous tumor. He determined to make an incision to find out the true character of the condition and to remove the same. As soon as the incision was made, the spleen was discovered, and its removal at once decided upon. The enlarged size of the organ, length and weakness of its ligaments made an attempt at its restoration and attachment to its normal position a physical impossibility. The only safe course was to remove the organ, and this was done without the least difficulty, as its pedicle was not larger than one's little finger at the point of its attachment under the diaphragm. It was ligated in section, and the stump well covered with peritoneum. The subsequent behavior of the patient's temperature could not be accounted for until the typical typhoid reaction was obtained some six or seven days after the operation. From that time on the typhoid condition was regarded as the primary disease, and was treated accordingly. The abdominal section presented no features to occasion the least alarm. Patient ran the regular course of the fever, and her convalescence was uneventful. Her health since her recovery has been better than prior to the attack of typhoid fever.

DRS. I. S. STONE, WILLIAM T. HOWARD, LAPTHORN SMITH, A. PALMER DUDLEY, J. WESLEY BOVEE and JOSEPH E. JANVRIN reported cases of splenectomy.

The Medical Side of Gynecology.

DR. EDWARD W. JENKS, Detroit, said that there was a medical side to gynecology which could not be ignored, for a special training, together with a thorough knowledge of general medicine, were prerequisites for the making of an ideal gynecologist. Fully one-half of the women seeking advice and relief from disorders peculiar to their sex were suffering from some deranged condition of the eliminative organs, as shown by constipation or defective elimination of solids in the urine. Even where there were lesions in the pelvic organs, no relief from distressing symptoms could be secured until the underlying constitutional causes of pain and general poor health were first ascertained and removed. There were many derangements of the system which closely resembled diseases of the pelvic organs. Pain in the back, the commonest complaint of women, might be due to coccygodynia, myalgia, chronic malarial toxemia or other constitutional causes; pain in the abdomen sometimes attributed to the ovaries might be due to habitual constipation, or to an atonic condition of the large intestine.

He was convinced that some of the medical schools were responsible for the neglect of medical gynecology. Surgical technic was taught in all its refinements, but symptomatology, differential diagnosis and the treatment of diseases of women amenable to medicinal remedies could not receive adequate attention in the brief time devoted to them, if one judged by the results. The glamor of gynecologic surgery had obscured the commonplace, but equally important, study of gynecologic medicine. He made an eloquent plea for the medical side of gynecology, and urged that it be not relegated to obscurity in our zeal to advance gynecologic surgery. He entered his protest against so many calling themselves gynecologists who ploughed only in one furrow of the field of gynecology, while the field itself was only a part of the great domain of medicine and surgery.

Lacerations of the Cervix Uteri and Pelvic Floor.

DR. W. L. BURRAGE, Boston, read a paper on these conditions, in which he made a plea for their more careful study, their diagnosis and treatment. He said the glamor of successful abdominal surgery had left the less dangerous and less showy plastic surgery in the background. Lacerations of the cervix and pelvic floor merited a more careful study than they had received; that if they were repaired early, fewer major mutilating operations would be called for later; that the normal conditions were the ones the gynecologist should endeavor to restore, and until he was successful in doing this no attempt should be made to improve nature. Emmet gave the principles underlying repair of lacerations of the pelvic floor to the profession in 1883. These had been generally accepted as correct, and as yet no one had proved them to be erroneous. He urged the members of the society to stand by these principles and to devote their energies to perfecting details of operative technic rather than to invent or advocate operations which involved principles diametrically opposed to those of Emmet.

He had operated for laceration of the cervix two hundred and one times, and for lacerated perineum and pelvic floor a hundred and sixty-two times.

Symposium on Retrodisplacements of the Uterus.—Etiology, Pathology and Symptoms.

DR. MATTHEW D. MANN, Buffalo, N. Y., discussed this part of the subject. He believed that the round ligaments were important factors in holding the uterus in place, and that they acted in the manner pointed out by Kellogg. If the ligaments be stretched, the uterus falls behind the center of gravity, and the round ligaments are not able to pull it far enough forward, so that the intra-abdominal pressure falls on the posterior wall, with every effort to increase backward displacement. Weakening of the pelvic floor, relaxation of the pelvic outlet as the result of childbearing, with or without rupture of the perineum, will allow the uterus to sag downward, and the fundus to fall backward. Relaxation of any of the supports of the uterus tends to backward and downward displacement of the uterus, and if the ligaments and pelvic floor are relaxed, then eventually there will be prolapse to a greater or less extent, dependent upon the amount of relaxation. He spoke of the uterovesical ligament as having considerable influence in the production of uterine displacement. He mentioned other factors which caused the uterus to become displaced backward, one of which was rupture of the perineum, which enables the vaginal walls to come down. If these came down, with cystocele or rectocele, then the vaginal wall, dragging upon the cervix, pulls the organ downward, and tips it over backward.

In displacement of the uterus the circulation and nutrition of the organ are interfered with, so that in a short time the woman would get a chronic congestion, with thickening and enlargement of the connective tissue of the uterus. This might be called, for want of a better term, chronic metritis.

Another cause of displacement of the uterus was laceration of the cervix, which allowed the organ to sink down into the pelvis, to turn slightly backward, the displacement going on from bad to worse. He had seen two cases of displacement of the uterus, one following whooping-cough in an adult, the other from straining at stool. In the latter case the uterus was forced outside of the body from constant straining at stool, although the hymen was intact. He then mentioned the symptoms of retrodisplacement of the uterus and among them he spoke of backache, bearing-down pains in the pelvis, etc. He did not believe that every case of posterior displacement of the uterus caused symptoms, but the majority of cases of backward displacement did cause symptoms. A woman with a backward displacement of the uterus would not continue to be well. She might be well for the time, but eventually she would suffer. He did not believe a backward displacement of the uterus could exist for any great length of time without the woman suffering more or less. Besides the symptoms familiar to the gynecologist, he thought there were a great many reflex symptoms. A woman with a retrodisplaced uterus might suffer a great deal from reflex symptoms without the presence of pelvic symptoms. He cited cases in point.

(To be continued.)

MEDICAL SOCIETY OF THE STATE OF WEST VIRGINIA.

Thirty-fifth Annual Meeting, held at Parkersburg, May 21-23, 1902.

President, G. A. Aschmann, M.D., Wheeling, in the Chair.

Welcome.

The Society was welcomed to Parkersburg by Hon. J. W. Vandervort, mayor of the city, and Dr. Thomas A. Harris, Parkersburg, responded on behalf of the Society. The meeting proved to be the most successful ever held by the society. The attendance was large and eighty new members were taken in, which is more than twice the largest number ever taken in at one meeting. The scientific quality of the papers read was exceptionally high and the animated discussions added much to their value.

President's Address.

DR. GUSTAVUS A. ASCHMANN, Wheeling, in his address discussed chiefly the reorganization of the Society on the plan suggested by the American Medical Association. This plan he favored strongly. He also advocated the erection of a state hospital for the treatment of tuberculosis.

State Medicine.

DR. WILLIAM S. KEEVER, Parkersburg, delivered the address on State Medicine, in which he showed clearly and succinctly the benefits the Society and the profession would derive from needed legislation.

Smallpox.

DR. W. O. MAGILL, Morgantown, read an interesting essay on "The Etiology of Smallpox; With Special Reference to Its Microbiology and Demonstration of Its Microbe."

Tuberculosis.

DR. CHARLES F. ULRICH, Wheeling, delivered an address on the "Hygienic Treatment of Tuberculosis," in which he thoroughly discussed the origin and treatment of the disease in all its stages.

DR. JOHN L. DICKEY, Wheeling, then read a paper in which he detailed the treatment in the past.

DR. WILLIAM A. CALDWELL, Morgantown, next described the modern methods of treatment.

The reading of these papers was followed by a vigorous discussion, opened by Dr. William W. Golden, Elkins.

Among the other papers were the following: "An Analysis of 150 Operations for the Radical Cure of Hernia," by Dr. Frank Martin, Baltimore; "Movable Kidney," by Dr. Robert J. Reed, Wheeling; "Some Features of Medical and Surgical Study in London and Berlin," by Dr. A. S. Grimm, St. Marys; "Intestinal Anastomosis," by Dr. John R. Cook, Fairmont; "Tonsillitis," by Dr. V. T. Churchman, Charleston; "Tubercular Peritonitis," by Dr. J. Schwinn, Wheeling; "Some of the Effects of Typhoid Fever on the Nervous System," by Dr. C. C. Hersman, Pittsburg; "Spinal Anesthesia with Report of Cases," by Dr. O. O. Cooper, Hinton; "On the Management of Rectal Diseases," by Dr. Wm. M. Beach, Pittsburg; "The History of a Bullet in the Apex of a Human Heart for Thirty-five Years," by Dr. E. T. W. Hall, Weston; "Quarantine," by Dr. T. L. Barber, Charleston, W. Va.

Banquet.

On May 22, the annual banquet tendered by the local medical profession was held at the Blennerhassett Hotel and was attended by about 125. Dr. Hiram B. Stout, Parkersburg, was toastmaster and Drs. Charles F. Ulrich, Wheeling; Brooks F. Beebe, Cincinnati; Louis D. Wilson, Wheeling; Timothy L. Barber, Charleston, and Edwin S. Ricketts, Cincinnati, and others responded to toasts.

Reorganization.

On the third morning the most important transaction was the discussion of the motion to make a general revision of the Constitution and By-Laws of the organization, to be in entire conformity with those of the American Medical Association. The Society has grown with such rapidity and to such size that such a step was found to be not only expedient, but necessary. The adoption of the Constitution and By-Laws of the National Organization was made by unanimous vote of the meeting. A number of departures, however, had to be made on account of the very small number of county societies now in the state. From now on the Society is to be known as the West Virginia State Medical Association.

Election of Officers.

The following officers were elected for the ensuing year: President, Dr. Hiram B. Stout, Parkersburg; vice-presidents, Drs. Robert A. Haynes, Clarksburg, Spencer S. Wade, Morgantown, and Harriette B. Jones, Wheeling; secretary, Dr. William W. Golden, Elkins; treasurer. Dr. Vincent T. Churchman, Charleston; delegate to the American Medical Association, Dr. L. D. Wilso, Wheeling, and alternate, Dr. D. P. Morgan, Clarksburg.

Charleston was selected as the meeting-place for May, 1903.

Therapeutics.

[It is the aim of this department to aid the general practitioner by giving practical prescriptions and, in brief, methods of treatment for the diseases seen especially in every-day practice. Proper inquiries concerning general formulae and outlines of treatment are answered in these columns without allusion to inquirer.]

Follicular Conjunctivitis.

Follicular conjunctivitis, according to Drs. Wood and Woodruff, in *Med. Standard*, is a catarrhal conjunctivitis to which has been added an overdevelopment or hypertrophy of the lymph follicles. They recommend as treatment the local application of cold compresses followed by a mild antiseptic lotion similar to the following:

R.	Acidi hydrocyanici dil.	gtt. i	06
	Acidi boracici	ʒss 2	
	Sodii boratis	gr. xl 2	66
	Aq. destil.	ʒii 60	

M. Sig.: One or two drops to be instilled into the eye once or twice daily.

In cases of trachoma or chronic granular conjunctivitis the conjunctival sac should be thoroughly cleansed with boracic acid or weak bichlorid solution and later some astringent preparation applied, such as the following:

R.	Cupri sulph. vel. acidi tannici	gr. x	66
	Vaselini	ʒi 30	

M. Ft. ung. Sig.: Apply between the lids once or twice daily. In the early stages, when the granulations are excessive and prominent, massage of the lids with the following is recommended by them:

R.	Hydrarg. oxid. flav.	gr. v	30
	Lanolini	ʒss 30	
	Vaselini	ʒss 30	

M. Sig.: To be applied to the lids and thoroughly rubbed in.

Iodic Acid in Trachoma.

According to *Merck's Archives*, Dr. Ichile, in *Rev. de Ther.*, states that iodic acid liberates iodin, and hydriodic acid is formed, destroying the follicles, killing the microbes and favoring leucocytosis. No scars result from the cauterization. In acute and subacute forms of granular conjunctivitis the author employs 5 per cent. solutions of iodic acid for irrigating the mucous membrane. In the initial period of trachoma he uses instillations of a 3 per cent. solution. In the cicatricial form of trachoma an ointment is preferable, as follows:

R.	Acidi iodici	gr. xii	75
	Lanolini	ʒvi 24	
	Olei olivæ	ʒvi 24	

M. Sig.: To be applied locally once daily.

The action of the iodic acid may be assisted by the simultaneous administration of potassium iodid.

For masseeing the palpebral mucous membrane the following salve is used:

R.	Acidi iodici	gr. xv	1
	Sodii iodidi	gr. lxxv	5
	Acidi borici	ʒiiss	10
	Vaselini	ʒiii	90

M. Sig.: Apply locally by massage to the mucous membranes.

Iodic acid is a colorless solid appearing in the form of rhombic crystals; it is soluble in water, insoluble in alcohol; for use as a caustic it is made up in the form of sticks. In employing about the conjunctival membrane, the strength of solution mentioned in the foregoing should be used.

Treatment of Lupus with Permanganate.

Butte, as stated in *Amer. Med.*, recommends the following: The entire locality affected with lupus is carefully washed either with ichthyol soap or with the following antiseptic emulsion:

R.	Hydrarg. bichloridi	gr. v	30
	Tinct. benzoini	m. lxxv	5
	Tinct. saponis	ʒiss	45
	Aq. destil	ʒvii	210

M. Sig.: As a wash locally.

After applying this, follow with a compress saturated with a warm 2 per cent. solution of potassium permanganate, to be kept on fifteen minutes. This treatment is to be repeated every day. In about ten days the tubercles are covered with a blackish coating and to the touch they no longer give the sense of elevation, but are atrophied and what is left of them is of a soft consistence. After the first ten days, the treatment is to be applied only every other day, but must be continued for a period of two or three months. At the end of this time no more tubercles are to be seen and the skin presents a smooth appearance; though it is red and cicatricial in character, the process seems to be arrested. Should any new tubercles reappear, a few applications of permanganate causes them to disappear.

A Spray in Asthma.

Dr. A. Abrams, in *Med. Fortnightly*, recommends the following as a spray in treatment of asthma:

R.	Antipyrini	gr. xv	1
	Pyridin	ʒi	4
	Sod. nitritis	ʒii	8
	Tr. lobeliæ (ethereal)		
	Tr. belladonnæ		
	Tr. stramonii, āā	ʒv	20
	Tr. ipecacuanhæ	ʒiv	15
	Glycerini q. s. ad	ʒiv	120

M Sig.: To be used in the form of a spray.

[It has been a question among the profession as to how much of the respiratory tract can be reached by means of inhalation. It would seem more improbable that the bronchioles could be reached by means of a spray.]

Scrofulous Conditions in Children with Enlarged Lymphatics.

The following outline of treatment is recommended by *Merck's Report* in the treatment of enlarged lymphatic glands of a scrofulous nature in children:

R.	Iodipin	ʒi	30
	Spts. vini gallici	ʒii	8
	Yolk of eggs (2)		
	Olei aurantii	gtt. iii	20
	Olei vel. menthæ pip.	gtt. ii	12
	Olei morrhuæ	ʒvi	180

M. Sig.: One or two teaspoonfuls three times a day.

It may be given plain as follows:

R.	Iodipin	ʒi	30
	Olei aurantii	m. ii	12
	Olei morrhuæ	ʒvii	210

M. Sig.: One teaspoonful three times a day in milk. The alterative properties of the cod-liver oil are reinforced by the absorbent and resolvent properties of the iodin in the iodipin which contains 10 per cent. of iodin. At the same time the following ointment should be applied at night or in severe cases night and morning:

R.	Guaiacol.	ʒi	4
	Ung. pot. iodidi	ʒiii	12
	Lanolini	ʒiv	15

M. Ft. unguentum. Sig.: Apply at night and wash the in the axillæ.

Medicolegal.

Admissible Evidence of Undertaking of Physician.—The Supreme Court of Minnesota holds, in the case of Pickler vs. Caldwell, that an offer of evidence, at the trial of an action brought to recover for professional services, to show that a party had volunteered to call upon the suing physician for an invalid, and did afterward call, when the physician offered, through him, to effect a cure or make no charge, with a communication to the invalid of what had occurred at the physician's office, was improperly excluded, under issues that presented the question whether the physician's treatment had benefited the invalid. The court thinks that an offer of that character would tend to establish a relationship of principal and agent between the party and the invalid, and that the statements made to him by the physician, communicated and

acted upon, would have a proper legal tendency to support the defense.

Liability for Use of Property for Pesthouse.—The Supreme Court of Washington holds, in the case of Brown vs. the County of Pierce and the City of Tacoma, that where property was seized and used for a pesthouse the owners were entitled to recover the actual value of the use of the property for that particular purpose. It holds that the jury was properly instructed in this case as follows: "The measure of damages in a case of this kind would be and will be what you believe from the evidence would be the fair and reasonable rental value of that property for the purpose for which it was taken and used. It is what damage the property sustained by reason of having been used for a pesthouse. And you must arrive at the measure of damages—ascertain the measure of damages—from the evidence, not from any preconceived notions of your own, but from the evidence brought out upon the trial, and from that come to your conclusion." Here, the county physician assisted in finding the house in question, in connection with a representative of the city health department, caused patients to be sent there, and attended them in person. He also testified that on the same day of the selection of the house he reported to the chairman of the County Board of Health, and asked him how he was to care for the patients; to which the chairman replied that he should go ahead and use his best judgment, which he said he did. From this the court thinks that it was properly a question for the jury whether the patients were county charges, and, if so, whether their treatment in the house by the county's physician was an occupation for the use of the county, and acquiesced in by the county authorities. In times of pestilence action must be promptly taken, and health boards may not be able to meet quickly for formal action. Some one should therefore have power to act. Even though it were true that the physician mentioned was not county health officer, but only county physician, if nevertheless he attended patients quarantined in this building, acting as county physician in behalf of those for whom the county assumed to care, the court does not see that it was material whether he was a fully qualified health officer or not. If he was the qualified health officer of the county, as he testified, under the exigency calling for immediate action, he had sufficient power to act without express authorization by the board of county commissioners.

Current Medical Literature.

AMERICAN.

Titles marked with an asterisk (*) are abstracted below.

American Medicine, May 31.

1 *Report of the Presence of Anguillula Aceti in the Urine of Two Patients Mistaken for Strongyloides Intestinalis. Frank Billings and Joseph L. Miller.
2 *Pneumococcus Arthritis. Rufus I. Cole.
3 *Some Modifications of the Author's Original V-Shaped Operation for Deflection of the Septum. D. Braden Kyle.
4 *Bubonic Plague: Remarks on Diagnosis, Dissemination of Bacillus Pestis, and Prophylaxis, with Report of a Case. Joseph J. Curry.
5 *Mensuration as an Aid to the Diagnosis of Pulmonary Tuberculosis. Charles R. Upson.
6 A Case of Parovarian Cyst Complicated by the Presence of a Myomatous Uterus Filling the Pelvis; Operation; Extensive Adhesions; Accidental Incision of the Bladder; Phlebitis on the Twenty-first Day. G. H. Brown.
7 *The District of Columbia Cancer Record for Twenty Years. Clarence A. Smith.

Medical Record (N. Y.), May 31.

8 *The Treatment of Cholelithiasis. Howard Lilienthal.
9 *Acroparasthesia (the Parasthetic Neurosis); the Analysis of One Hundred Cases. Joseph Collins.
10 *The Symptoms of Chronic Non-Alcoholic Gastritis. George R. Lockwood.
11 Post-operative Obstruction in a Case of Sarcoma of the Uterus and Mesenteric Cyst, Due to Incarceration of the Small Intestine in a Hole in the Mesentery. Charles S. Hamilton.
12 Report of a Case of Tubal Pregnancy Diagnosed One Week Previous to Rupture, Verified by Operation Following Rupture—Recovery—Presentation of Rare Specimen. Edward N. Liell.

New York Medical Journal, May 31.

13 *The Surgical Treatment of Prostatic Hypertrophy. Charles H. Chetwood.
14 How to Conduct a Normal Labor. James Moran.
15 *Conservatism in Abdominal and Pelvic Surgery. Edwin Ricketts.
16 *Colon Bacillus Infection. J. Holcomb Burch.
17 *Fractures of the Upper Third of the Femur. W. Burt.

Boston Medical and Surgical Journal, May 29.

18 *Remarks on Intestinal Obstruction by Bands Following Operations on Peritoneal Cavity with Report of Cases. F. B. Lund.
19 Papilloma of Bladder, with Operation; Report of a Case. G. H. Washburn.
20 Three Cases, Two of Papilloma of the Bladder, and One in Which the Diagnosis of Papilloma Was Made, But Which Turned Out to Be Something Else. F. B. Harrington.
21 Small Papilloma of Bladder Characterized by an Excessive Hemorrhage: Removed by Suprapubic Cystotomy. Maurice H. Richardson.

Medical News (N. Y.), May 31.

22 *A Contribution to the Subject of Infant-Feeding. S. Henry Dessau.
23 *The Bacterial Pathology, Symptomatology, Diagnosis, Treatment and Quarantine of Tonsillar Inflammations. William G. Bissell.
24 *The Diagnostic Uses of Gonococcus. E. D. Bondurant.
25 *Poisoning by Aconite (the Condon Case) and the Physiologic Analysis of Alkaloids. William S. Magill.
26 *Some Suggestions Relative to the Treatment of Tuberculosis. F. M. Pottinger.
27 The Smallpox Problem. Ernest Wende.

St. Louis Medical Review, May 31.

28 President's Address, Missouri State Medical Association. J. D. Griffith.

Cincinnati Lancet-Clinic, May 31.

29 *General Remarks on Alcoholic Psychoses. Brooks F. Beebe.
30 Methods of Artificial Dilatation of the Os in Parturition. H. F. Gau.
31 Appendicitis. B. Merrill Ricketts.
32 Penetrating Foreign Body in the Eyeball Which Had Been Successfully Extracted by Means of the Electro-Magnet. Derrick T. Vail.

Medical Age (Detroit, Mich.), May 25.

33 Four Cases of Extra-uterine Pregnancy Treated by the Vaginal Route. Frank L. Adams.
34 Empyema of the Frontal Sinus. H. Bert Ellis.
35 What Should the Patient Know About His Disease and Treatment? J. Howe Adams.

Quarterly Journal of Inebriety (Hartford, Conn.), April.

36 *Clinical Treatment of Inebriety. T. D. Crothers.
37 Alcoholism and Crime—How We Should Deal with the Criminal Alcoholic. Heinrich Stern.
38 Sweating in Electric Light and Hot Air Cabinets. Dr. Krebs.
39 *The Relation of Alcoholism to Tuberculosis. T. N. Kelynack.
40 Alcohol as a Factor in the Causation of Disease. G. Sims Woodhead.
41 Is There Hope for the Drug Fiend? David Paulson.
42 Dipsomania. Lucius W. Baker.

Brooklyn Medical Journal, May.

43 On the Field of Vision. Ernest Schalck.
44 Blood Examination as an Aid to the General Practitioner. Warren S. Simmons.
45 Feeding in Chronic Nephritis. William P. Pool.
46 Case of Spina Bifida. C. L. Kerr.
47 A Consideration of the Sequelæ of Gynecologic Operations. Henry C. Keenan.
48 Practical Points in the Treatment of Empyema Thoracis. Russell S. Fowler.
49 Milk Commission of the Medical Society of the County of Kings. Elias H. Bartley.
50 Some Traumatic Neuroses and Their Treatment. J. Sherman Wight.

Interstate Medical Journal (St. Louis), April.

51 *Cesarean Section in Cases of Placenta Previa. Friedrich Schauta.
52 The Treatment of Tuberculosis. Wm. C. Glasgow.
53 *Hematemesis in Pernicious Anemia. Francisco T. B. Fest.
54 Ligation of Arteries—Cocain Anesthesia. B. Merrill Ricketts.
55 A Unique Case of Hereditary Lues. Martin F. Engman.
56 Functional Symptoms in Organic Diseases, Illustrated by the Presence of a Bilateral Abducens Paralysis in a Case of Typhoid Fever. Sidney I. Schwab.

May.

57 *Muco-membranous Colitis in Children (Mucous Disease, Eustace Smith's Disease), with Report of Two Cases. John Zahorsky.
58 *Review of the Pathologic Anatomy of Amebic Dysentery. C. Fisch.
59 Therapeutic Value of Work in Hysteria and Neurasthenia. Sidney I. Schwab.
60 Report of a Case of Necrosis of the Frontal and Contiguous Bones. Louis Rassieur.
61 A Case of Acute Articular Rheumatism of the Crico-Arytenoid Joints. William E. Sauer.
62 Case of Collateral Circulation After Tearing of Both Radial and Ulnar Arteries. William J. Kress.

Iowa Medical Journal (Des Moines), May 15.

63 Anesthesia. S. A. Brown.
64 Intra-abdominal Lesions Following Traumatisms. J. E. Summers, Jr.
65 Gonorrhea. J. H. Burlingame.
66 Some Remarks on Typhoid Fever in Children. H. Scott.

67 The Antitoxin Treatment of Diphtheria. M. E. Silver.
68 Notes on Some Uncommon Diseases of the Thoracic Viscera. Edward Hornibrook.
69 Some Nasal Conditions Causing Headache. George Park.

Medical Times and Register (Philadelphia), May.

70 The Modern Treatment of Consumption. B. H. Detweiler.
71 Abscesses, Adenomas, Adipose Tumors, Aneurisms, Callosities, Hemorrhoids, Torticollis, Specific and Malignant Diseases of the Rectum and Ulceration. W. H. Walling.

American Journal of Insanity (Baltimore), April.

72 *Etiology of Paresis. Arthur W. Hurd.
73 *The Early Diagnosis of Paresis. F. X. Dercum.
74 The Comparative Frequency of General Paresis. Charles G. Wagner.
75 *Treatment of Paresis; Its Limitations and Expectations. Edward Cowles.
76 *Heredity, with a Study of the Statistics of the New York State Hospitals. William C. Krauss.
77 Senility and Senile Dementia. William L. Russell.
78 *Some Observations upon the Elimination of Indican, Acetone and Diacetic Acid in Various Psychoses. Isador H. Coriat.
79 Studies in the Manic-Depressive Insanity, with Report of Autopsies in Two Cases. Stewart Paton.

Canada Lancet (Toronto), May.

80 Gastro-jejunostomy. J. A. Grant.
81 Diphtheria of the External Ear. G. H. Carveth.
82 Treatment of Chronic Prostatic Enlargement. J. W. Shaw.
83 The Skill of A. Paget. H. S. Hutchinson.
84 The New Medical Building of the University of Toronto. J. J. Mackenzie.

St. Paul Medical Journal, June.

85 *The History of Typhoid Fever in the Hospital at St. Peter During the Past Ten Years. H. A. Tomlinson.
86 *The Surgical Significance of Carbuncle of the Upper Lip and Face. James E. Moore.
87 Inguinal Buboes. Burnside Foster.
88 Spinal and Intra-neural Anesthesia. Madge T. Holman.
89 *A Simple Hydriatic Procedure. J. R. Leadsworth.
90 Coin in the Esophagus for Five Months. A. R. Colvin.
91 Foreign Bodies in the Vermiform Appendix. F. J. Campbell.
92 The Removal of a Twenty-five Cent Piece from a Child's Gullet After Remaining There Nine Months. Frederick Leavitt.

Canadian Journal of Medicine and Surgery (Toronto), June.

93 Duncombe vs. the Mutual Life Insurance Company of New York. Arthur J. Johnson.
94 The Treatment of Sciatica. Vernon A. Chapman.
95 A Case of Congenital Tooth. Geo. H. Carveth.
96 Case of Tumor of the Superior Maxilla. Charles F. Forshaw.

Cleveland Medical Journal, May.

97 *The Physiologic Pathology of the Circulation in Acute Pneumonia. A. S. Maschke.
98 *A Critical Résumé of the Remedies Used in the Treatment of Pneumonia. John B. McGee.
99 A Case of Caisson Disease, with Unusual Hypopyrexia and Recovery. Louis W. Ladd.
100 A Brief Résumé of Puerperal Sepsis and Its Treatment on Surgical Principles. R. E. Skeel.
101 A Case of Mitral Stenosis. W. J. Pettus.

Medical Examiner and Practitioner (N. Y.), May.

102 *The Relation of Irregular Pulse to Cardiopathic States. Joseph M. Patton.
103 Sub-standard Risks. Charles B. Soule.
104 Legal Prohibitions of Unprofessional Mental Healing. Charles M. Demond.
105 Examination of Urine. E. L. Fisk.
106 The Detection and Estimation of Sugar in the Urine by the Elliott Method. Walter Jaquith.

Medical Sentinel (Portland, Ore.), May.

107 Report of Two Cases of Acute Suppurative Infammation of the Middle Ear, and a Case of Carcinoma of the Nasal Septum. M. A. Hughes
108 Treatment of the Morphin Habit. Robt. L. Gillespie.
109 Complete Absence of Vagina—Report of Case. Samuel J. Stewart.

Clinical Review (Chicago), June.

110 Bony Union After Intra-capsular Fracture of the Neck of the Femur; Perineal Prostatectomy; Cystic Ovary Complicated with Myo-fibroma of the Uterus; Strangulated Umbilical Hernia; Empyemia of the Frontal Sinus; Osteomyelitis Involving the Shaft of the Tibia; Relapsing Carcinoma of the Submaxillary Region; Epithelioma of the Lower Lip; Non-union Following Fracture of the Tibia and Fibula. N. Senn.
111 *Sleep and Insomnia. L. L. Skelton.
112 Clinical Lectures upon the Etiology, Pathology, Diagnosis and Treatment of Tumors. A. H. Levings.

Carolina Medical Journal (Charlotte, N. C.), May.

113 Why Not Forestall Tuberculosis and Blot It from the Face of the Earth? Jas. A. Burroughs.
114 Some Remarks on Cataract—Experience Gleaned from Over Five Hundred Cases. Joseph A. White.
115 Appendicitis and When to Operate. H. S. Lott.
116 Early Diagnosis of Tuberculosis the Most Valuable Factor in the Treatment. C. V. Reynolds.

Southern California Practitioner (Los Angeles), May.

117 *Report of Three Cases of Abdominal Aneurism. C. C. Browning.
118 Placenta Previa—Report of Cases. M. L. Moore.
119 Salicylic Intoxication. Francis H. Atkins.
120 Phthisiophobia. F. M. Pottinger.
121 *Ovarian Transplantation. Robert T. Morris.
122 Sterilized Grape Juice. Louis C. Smith.
123 The Medical History of Dr. Samuel Johnson. Francis R. Packard.

Charlotte Medical Journal, May.

124 Same as No. 113.
125 Pernicious Anemia. H. M. Fletcher.
126 Surgical Treatment of Dysmenorrhea. H. B. Weaver.
127 A Few Practical Remarks on the Application of the Obstetric Forceps. L. C. Stephens.
128 The Passing of the Preceptor. Edwin Ricketts.
129 Report of an Unique Case. John L. Jelks.
130 An Address on "The Consideration of the Physician from a Philanthropic Aspect and as a Member of Society." J. W. McCanless.
131 The State Society and the American Medical Association. G. W. Pressly.
132 Typho-malarial Fever from a Clinical Standpoint. Wm. E. Anderson.
133 The Therapy of Iron and Its Compounds. H. K. Aiken.
134 Case of Pneumonia with Pyemia as Complication. James A. Knight.
135 Creosote in Pneumonia. J. A. Gracey.
136 Salpingitis. Walter Lenehan.
137 A Plea for Typho-Malarial Fever. J. D. Hopper.
138 Injuries of the Knee-Joint with Report of Cases. J. B. Johnston.
139 Anesthesia. E. W. Carpenter.

Alabama Medical Journal (Birmingham), May.

140 Annual Message of the President, Medical Society of the State of Alabama. Edwin L. Marechal.
141 *The Treatment of Cold Abscesses. Wisner R. Townsend.
142 Certain Newer Uses of Electricity in Medicine and Surgery. G. Betton Massey.
143 The Medical and Legal Profession and Their Relation to Each Other. John B. Duke.
144 Some Reasons for the Past Failures in the Treatment of the Morphin Habit. George E. Pettey.
145 Twin Pregnancies and Cases. Hugh Boyd.

Annals of Ophthalmology (St. Louis), April.

146 *Glaucoma—An Experimental Study. Edward B. Coburn.
147 A Clinical and Pathologic Report of Two Cases of Glaucoma. Howard F. Hansell.
148 *Note on the Visual Field in Glaucoma. Harry Friedenwald.
149 Mauthner's Method of Diagnosing Paralysis of Depressors or Elevators of the Eyes. E. F. Snydacker.
150 The Toxic Amblyopias. J. P. Nuel.
151 A Theory of Binocular Perspective, and Some Remarks upon Torsion of the Eyes, the Theory of Vicarious Foveae, and the Relation of Convergence to the Perception of Relief and Distance. Frederick H. Verhoeff.

Medical Times (N. Y.), May.

152 Compatible Medication, or the Physical Forces in Scientific Formulation. E. C. Hebbard.
153 The Falling Birth-Rate. A. L. Benedict.
154 The Pretubercular State. W. S. Phillips.

Proceedings of the New York Pathological Society, April.

155 Persistence of Varieties of the Bacillus Diphtheriæ and of Diphtheria-like Bacilli. Anna W. Williams.
156 Sponge Found in Operation Wounds. Eugene Hodenpyl.
157 Proteosoma-malaria in Sparrows. W. N. Berkeley.
158 Multiple Diverticula of the Colon; Fibromyoma of the Stomach. J. D. Condit.
159 False Diverticula of the Sigmoid Flexure; Aneurismal Dilatation on the Ductus Arteriosis in a Male Infant; Specimen of Conglomerate Tubercles of Liver. Otto H. Schultze.
160 A Specimen of Rhabdomyoma of the Testis; A Specimen of Myoma of Small Intestine. F. C. Wood.
161 A Surgical Needle Encysted in the Abdominal Cavity. Warren Coleman.

Woman's Medical Journal (Toledo, Ohio), May.

162 Puerperal Eclampsia. L. Estelle Paullin.
163 Folk-lore Medicine in Literature. Eliza H. Root.
164 Varicose Veins of the Right Upper Extremity in a Child. Bertha E. Bush.

Pennsylvania Medical Journal (Pittsburg), May.

165 *Address in Mental Disorders. Robert H. Chase.
166 *A New Method of Performing the Operation of Nephropexy. H. D. Beyea.
167 The Value of the Tallquist Hemoglobin Scale to the General Practitioner. M. H. Fussell.
168 *Instrumental Perforation of the Uterus. Wilmer Krusen.
169 Amyotrophic Lateral Sclerosis, with Report of a Case. Thomas L. Coley.
170 The True Value of Local Treatment in Gynecic Practice. Frank C. Hammond.
171 *Surgical Treatment of Enteroptosis. John G. Clark.
172 *The Ultimate Results of Operation for Cancer of the Uterus. Charles P. Noble.
173 *The Kidney Complications of Typhoid Fever. James E. Talley.
174 *Duration of Immunity by Diphtheria Antitoxin. Henry D. Jump.

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1. **Anguillula Aceti in the Urine.**—Billings and Miller report a case in which a form resembling the *Anguillula stercoralis* was found present in the urine. They compared this species with the common vinegar eel and found a very close resemblance, the chief point of difference being in the males, where the *A. aceti* is slightly longer, and the young forms differ

in that the esophageal enlargement does not appear so early in the *A. aceti*. The females of the free form of *A. stercoralis* are less than half the length of the females of the *A. accti*, but possess the same esophageal enlargement. The females of the parasitic generation correspond in length with the *A. aceti*, but do not have the esophageal enlargements. The nematode found in the urine resembles in every particular the *A. aceti* and one seems justified in these two cases in saying that the worm present was the *A. accti* or vinegar eel.

2. **Pneumococcus Arthritis.**—Two cases of this rare condition are reported by Cole, who reviews the previously collected cases by Cave, and adds 11 more, including those here published. In a study of 42 cases altogether, one being omitted, however, as not being sufficiently thoroughly examined, he finds that they can be divided into two great groups: 1, those appearing as complications or sequelæ of acute lobar pneumonia, 34 of the 41 cases belonging to this group; 2, cases of arthritis preceding or occurring independently of acute lobar pneumonia. There were eight of these, and two histories of which are here reproduced. The most important facts in regard to pneumococcus arthritis, many of which have already been pointed out by Cave, are stated as follows: 1. A tendency to involvement of the larger joints, though small joints may be involved. 2. A tendency to the involvement of more than one joint (13 out of 41 cases). 3. A tendency to involvement of joints already the seat of a chronic affection. (In 13 cases a history either of chronic rheumatism, old injury, previous arthritis or gout.) 4. The effusion is usually purulent, but may be serous. 5. The mortality is high (28 deaths, 13 recoveries). 6. The clinical features of the condition and the prognosis depend more on the septicopyemia, of which it is usually but a manifestation, than on the joint lesion itself. When recovery occurs, the course is usually a long, slow one, and usually ankylosis of the joint results. 8. The local treatment should consist in free opening and draining of the joint. The fact that in a few cases of mild infection of the smaller joints spontaneous recovery has occurred, might justify one in adopting conservative methods in such cases. He also reviews Cave's summary of the experimentally produced acute pneumococcus arthritis and mentions the experimental conditions produced by Bezancon and Griffon by modifying the resistance of the animal experimented on in relation to the virulence of the pneumococcus.

3. **Septal Deflections.**—Kyle reports certain slight modifications of his V-shaped cut in correcting septal deviations and describes a simple method of correcting deviations of the septum with external deformity as follows: First a small oblique incision is made through the skin into the nasal cavity on the convex side of the deflection just at the point of junction of the cartilage and bone, through which the small saw or file saw is then inserted and a V-shaped portion of cartilage removed. This should extend down on the septum a sufficient distance to break up all resiliency, and the amount removed should be sufficient to render the cartilaginous portion of the nose entirely pliable. The external wound is then closed by one suture, as it is not necessary to make an incision over ⅛ to ¼ inch in length. It is then sealed with collodion over cotton. The internal deformity is corrected the same as given above where no external deformity exists. It is of importance that a sufficiently large V-shaped piece be removed in order to render the septum perfectly pliable; in other words, to remove all redundancy. The principle involved in correcting the external deformity is identically the same as for the correction of the internal deflection of the septum. The prime object in all septal operations is to remove redundancy and break up resiliency. General anesthesia is preferable, although the operation can be done under local anesthesia.

4. **Plague.**—Curry reports a case occurring in a civilian employé of the quartermaster's department at Manila, with bacillary diagnosis, etc. He describes the different types of the disease, calling attention to the walking cases. The diagnosis must largely depend upon laboratory examination in the early stages. He considers plague a place infection depending largely on dirt and frequently due to inoculation from skin diseases, and the possibility of infection through coitus is also worthy of consideration. Pulmonic plague must often be due to inhalation of infected dust and animal experimentation shows that it may occur through the gastro-intestinal tract by infected food. For prophylaxis he insists on, 1, cleanliness; 2, the destruction of rats and mice; 3, protection of food and drink from all possible contamination by insects; 4, special attention to all skin diseases or abrasions through which the disease might be introduced.

5. **Phthisis.**—The measurements of the height, weight, respiratory power and the mobility and vital capacity of the chest, are dealt with by Upson. He holds that persons of more than average stature seem to be rather liable to the condition. In most cases of pulmonary tuberculosis there is a certain relation between the respiratory power and the vital capacity. In the early stages the inspiratory power is often lowered, while the expiratory power is unimpaired, but is lowered later. He has not infrequently tested the impairment of the chest movement in persons showing but few other signs and calls attention to certain changes in the shape and size of the neck noticed on the side of the affected lung, consisting in wasting at its base and perhaps a slight flattening apparent on that side owing to the flattening of the summit of the chest. He gives a tabulated statement of his measurements of individuals after and before the inception of the disease, showing the weight, length and semicircumference of the chest, its mobility, thoracic perimeter, respiratory power in inches of mercury and semicircumference of the neck. He is so convinced of the value of the signs obtained by mensuration that he uses it as a routine method, and always when, as is usually the case, a number of following symptoms are present, viz.: prominent bright eyes, often with dilated pupils; morning pallor; a feeling of fatigue on arising in the morning, even after a good night's rest; more or less shortness of breath on slight exertion; a quickened pulse unaffected by a change of position; an evening rise of temperature, and a dry hacking cough on assuming a recumbent posture. These measures give good warrant for treating the cases as tubercular.

7. **Cancer.**—Smith has analyzed the cancer statistics of the District of Columbia and draws the following conclusions: 1. On the basis of comparing cancer deaths with those of 30 years and over, no increase of the disease is found in the last decade over the preceding. 2. Classification of cases into accessible and inaccessible reveals practically no increase in the former but entirely in the latter, probably the result of improved diagnosis and certification of deaths. 3. Aside from cases of the female generative organs, the sexes are equally liable to the disease. 4. The white and colored races are alike subject to cancer, the latter showing a greater increase in cases of the uterus and liver. 5. While cancer deaths during the last decade have increased over those of the previous decade by a larger percentage than those from any other disease, we are not justified in attributing this to an increase in the disease itself.

8. **Cholelithiasis.**—Lilienthal reports 10 cases of operation for cholelithiasis, mostly cholecystectomies, which he considers the best operation when practicable. The gall-bladder has perhaps a function, but he does not think it has ever been discovered.

9. **Acroparasthesia.**—The first part of Collins' article is historical. He thinks the condition not uncommon; 100 cases have come to his hand in the last five years, excluding all such as were associated with neuritis, arthritis, rheumatism, gout, etc. The symptom is in many cases simply numbness, but there is a wide variation in the type and it may vary in severity from slight disagreeableness to severe pain. The average age of his cases was 39, the range was from 17 to 79 years; 69 were females and 31 males: 34 were Americans; 41 Russian Jews; 15 English, Scotch and Irish, and the remainder German and French. He finds that men are apparently more often affected than has been previously supposed and that many of his patients were tailors. The disorder seems to stand in close relationship to occupations which produce fatigue and ex-

haustion of the upper extremities, as in tailors, dressmakers, etc., or those that necessitate keeping the hands in water. He sees little connection between it and exposure to cold and inclement weather. It is quite noticeable that gastro-intestinal disorder is frequently present. As regards its pathogenesis he seems to favor the idea of autointoxication either from intestinal indigestion, exhaustion, etc., though nothing is really positively known in regard to the matter. The principal thing in the treatment is the removal of the cause and the treatment of the accessory conditions that exist. Constipation should be looked after, with rest and a nourishing diet; new environments are necessary for early and complete cure. Tonic hydrotherapy, regulation of diet and the use of such tonics as iron, arsenic and strychnia will generally relieve. He has had gratifying results from the use of electricity, both the galvanic and the Franklinic currents, and he has also in some cases, where the attacks occurred early in the morning, seen good results follow the taking of a small quantity of trional or sulfonal on retiring.

10. **Chronic Non-Alcoholic Gastritis.**—Lockwood reports a number of cases and offers the following conclusions: 1. In uncomplicated chronic gastritis not of alcoholic origin, if the muscular power of the stomach be good, the only symptom apt to be referred to the stomach is acidity. This occurs in about half of the hyperacid cases, but may be observed in the cases of complete achylia. Cases with normal acidity, and the vast majority of cases of anacidity, give no gastric symptoms. 2. The hyperacidity cases may give a course resembling that of a neurosis in that the symptoms are intermittent and are easily influenced by nervous conditions. It would seem, however, that a long-continued gastric neurosis was exceedingly rare, and that the great majority of such neuroses were rarely the neurotic outbreak of an organic lesion. 3. In gastritis, contrary to the accepted teachings, the following negative facts are to be noted: (*a*) The appetite is good. The few exceptions are observed in advanced atony, where the quantity of food is not well born, and in cases of neurasthenia. In neither case, however, is the gastritis itself the cause of the anorexia. (*b*) Pain occurs in two ways: (1) From acidity, differing in no way from similar pain in cases of nervous hyperacidity; (2) From gas. This latter pain differs in no way from that observed in cases of simple atony without gastritis, so that pain does not seem to be a symptom of gastritis proper. (*c*) Nausea does not occur in relation to meals. Patients with atony, and those who are neurasthenic, may complain of nausea, but the nausea is not related to meals and does not interfere with a normal appetite. It usually occurs when the patient is tired or nervous. (*d*) Vomiting does not occur in the non-alcoholic cases. (*e*) Unless there be diarrhea the nutrition is good, and, as a rule, the patients are not anemic. Exceptions may be made in cases of atony, but in these cases the anemia may well be the primary condition. 4. If the muscular power be poor, gas is present as a prominent symptom. This is more apt to occur in hyperacid cases, and is probably due to swallowed air. As this same symptom is observed in a similar number of cases of simple atony, the symptom is not directly due to the gastritis. 5. Gastritis may give rise to severe and long-continued diarrhea and emaciation, which may be mistaken for colitis, or malignant diseases of the colon. The diagnosis, however, should present no difficulty if a careful examination be made. These cases are more common than is usually supposed, and occur both in the hyperacid, and in the anacid cases. Between the two a diagnosis is possible only by gastric analysis. 6. Biliousness and its allied symptom-complexes are rarely, if ever, due to a primary functional disturbance of the liver, but are almost regularly due to an intestinal toxemia, traceable to some derangement of gastric chemistry, whereby improperly prepared chyme enters the intestine. 7. Anemia and constipation are the chief and only symptoms in a great many cases of even well-marked gastritis, and their continuance without apparent cause should justify an analysis of the gastric contents.

13. **Prostatic Hypertrophy.**—Chetwood gives the history of operations for this condition and refers to his former article in the *New York Medical Record* of May 18, 1901, in which he described his method of galvano-caustic incision of the prostate through a perineal opening. He has not altered the technic but has improved the instrument to some extent, giving it different side-blades to be changed at will and flexing the beak at an obtuse instead of a right angle. A small non-conducting metal piece 1/16 of an inch in height has been applied to the upper portion of the proximal side of the platinum blade to protect the sphincter muscle. The steps of the operation consist in opening the urethra upon a grooved staff. Digital exploration of the bladder is then made through this opening, and a correct knowledge of the nature and extent of the prostatic growth obtained. In some cases, in which the perineal distance is extreme and it is impossible to reach beyond the vesical neck, a specially devised retractor is employed to shorten the distance and to facilitate examination. The number of the galvanocaustic incisions varies according to the nature of the growth and the manner in which it obstructs the bladder outlet. Generally speaking, such obstruction is produced by an obtruding middle lobe which blocks the orifice, by intravesical and urethral hypertrophy of the two lateral lobes which elevate a median fold of mucous membrane and flatten the vesical orifice, or by intra-urethral prostatic nodules. A median lobe is treated with one incision through the center or one on each side, when the intermediate portion may be excised. The bilateral enlargement is treated with two ample incisions directed at an angle toward the median line, which serve to widen the flattened urethral outlet and to drop the elevated fold of mucous membrane. Intra-urethral nodules are best enucleated in the usual way, and the operation completed by an intravesical galvanocaustic incision, if such is required. He reports a number of cases that have been operated on with good results and offers the following conclusions: Palliative measures should not be persisted in when they fail after reasonable trial to produce and maintain an abatement of symptoms. A first infection of the bladder is not alone sufficient excuse for operation unless palliative measures fail to promptly subdue inflammatory conditions. Recurring infection of the bladder or ascending infection of the kidney is sufficient warrant for operative interference. There is a growing tendency toward earlier operation than was formerly practiced. The greater number of cases of prostatic hypertrophy can be satisfactorily reached through a perineal incision. In the large majority of cases, the requirements of any operation upon the prostate consists in the removal of the obstructing area and depressing the bladder opening into the prostate, so that the *bas fond* may be properly drained. In many cases the obstructing area of the hypertrophied gland can be satisfactorily reached and effectually removed through a perineal opening by means of galvanocaustic incisions.

15. **Conservatism in Abdominal and Pelvic Surgery.**—Ricketts thinks that conservatism is gaining ground with the specialist, but the occasional operators are extending their performances with bad results. He thinks that the general practitioner relying upon medical treatment and delay is sometimes more to be commended than the non-conservative extirpationists with their incomplete work.

16. **Colon Bacillus Infection.**—Burch reports a case, one of a class which he has met frequently of late and which has given him considerable trouble as to diagnosis. The cases referred to are fevers the duration of which is from seven to ten days. The attack is usually ushered in by a period of malaise that continues several days, the patient becoming rapidly worse until at last he is confined to his bed and the gradually rising temperature reaches its limit on about the fourth day, from which time it remains about 102 F. in the morning and from 103 to 104 in the afternoon. There is almost always some gastro-intestinal disturbances, sometimes diarrhea, less frequently constipation. The abdomen is at times distended and very often the case is accompanied with ileocecal regurgitation. The tongue is dry and often foul; there is sometimes mild delirium and almost always more or less headache. The whole clinical picture is that of typhoid fever and in every case there has been diminished leucocytosis. The urine fre

quently contained traces of albumin and sometimes granular casts. Indican was present in every case. The urine contained peculiar motile organisms resembling Eberth's bacillus. The Widal-Johnson reaction has been absent in every case throughout its entire course, but by employing a broth-culture of the bacilli found in the urine and the technic of the Widal reaction, agglutination was manifest in every case. He questions whether this is an abortive typhoid fever or whether of a peculiar type especially of infection due to the colon bacillus. All the patients had been working in the open air and ate heartily; ceased working and ate as before. This produced a condition of self-infection developing organisms with toxins which perhaps produced the symptoms. The question is, however, would not this also favor the Eberth bacillus as well and have we not here a mixed infection? He refers to the findings by Sacquépée in regard to the various races of the colon bacillus obtained from typhoid fever cases, and the only difference between his observations and the cases which came under Ricketts' eye were that in the former typhoid infection was severe, while in the latter it was of a mild type. Neither was the Eberth bacillus isolated, nor were agglutination reactions from broth cultures of the typhoid bacilli present.

17. **Fractures of the Femur.**—Burt holds that the use of Buck's apparatus with the femur in the straight position is certainly justified in some cases of fracture of the upper third of the femur and reports a case where this method succeeded while extension and inclined plane failed. The tendency of the upper fragment to tilt forward is completely overcome by the Buck apparatus, which brings both fragments into a straight line. The pelvis does the tilting, which often makes the fractured limb to appear longer, and for this reason he takes exception to the necessity of abducting the limb before applying the apparatus. He thinks those that favor pinning their faith to flexion should not depreciate those who have greater confidence in the straight position.

18. **Intestinal Obstruction by Bands.**—The rarity of such peculiarities seem remarkable when we consider the facts, as Lund remarks. He insists on the importance of adopting all means to prevent their formation, though it is probable that in many cases they disappear in time. Cases of incomplete removal of a septic organ, as where the inflamed stump of a Fallopian tube is left projecting into the abdomen, result in a constantly acting focus of infection and morbid growths; the omentum and appendices epiploicæ may also thus form bands causing intestinal strangulation. Meckel's diverticulum attached by one end to the abdominal wall and the other to the movable intestine, affords the best possible condition for angulation of the bowel. The coil of the intestine to which it is attached may become rotated on itself and thus twisted and strangulated as shown in a case here reported. Operations upon the lower part of the peritoneal cavity are naturally more likely to be the cause of internal strangulation of the bowel, on account of the gravitation of the loops of the intestine into that portion of the cavity. The symptoms of strangulation by adhesions are those of acute obstruction from other causes. Four cases are reported in detail.

22. **Infant Feeding.**—Dessau finds that for the vast majority of infants of all classes, the simplest and best food for daily use is a fair average quality of cow's milk, diluted with water according to the age and digestive capacity of the child. The "top milk," or the upper portion of milk that has been allowed to stand in a vessel at a temperature not above 60 degrees F. for from four to six hours, is sometimes preferable. The proportion of fat to proteids is much greater in such milk and will better bear diluting. A pinch of either table salt or phosphate of sodium is added, because cow's milk contains no soda salts, while human milk does, and a heaping teaspoonful of raw cane sugar to the quart. The mixture is placed in a double cooker, with cold water in the outer vessel, and allowed to remain on the fire for ten minutes after the water has begun to boil. This is virtually Pasteurizing the milk, which has become modified by dilution and the addition of salts and sugar. The principal and most important object of this process is not so much to attack germs as it is, as before mentioned, to act upon the casein in such manner that the character of the curd will be modified by the milk-curdling ferment in the child's stomach, analogous to rennet in the stomach of the calf, without doing injury to other nutritious components, as the nucleins, globulins, and calcium salts. His experience with the use of steamed milk for the past six years has been extensive and quite satisfactory.

23. **Tonsillary Inflammations.**—The various forms of tonsillar disease are reviewed by Bissell, including the follicular tonsillitis which he describes and does not consider necessary to quarantine, being due to the staphylococcus aureus or albus, the type in which the Klebs-Loeffler bacillus is present, in which antitoxin treatment should be employed—not, however, to the neglect of local measures. The prognosis is favorable if proper treatment is adopted early and also in the streptococcus cases which are also severe, but are resistant to antitoxin and should, he thinks, receive some quarantine attention. Further, he mentions tonsillar inflammation from the micrococcus of sputum septicemia which may be fatal. The treatment is the same as that of the streptococcus; the organism is, however, a common inhabitant of the human mouth and rarely infects, and quarantine seems hardly required. Brief mention is made of *Oidium albicans* as the cause of tonsillar inflammation, which is usually easily relieved by stimulating alkaline washes and tonics and requires no quarantine. In three cases an organism corresponding to the colon bacillus was found in tonsillar abscesses. He mentions, in conclusion, methods of disinfection, noticing a new form of paraformaldehyd candle which has been introduced, and says that the best results are obtained with the room nearly air-tight, using one candle to every 300 c.c. feet and arranging the surfaces of the articles so as to give full exposure, leaving the room for six or twelve hours, and using cleaning processes over the hard surfaces to supplement the procedure. Formaldehyd gas, while very diffusible, has slight penetrating properties. He says: "These facts demonstrate that to thoroughly disinfect a room and its contents, we should not depend solely upon formaldehyd, but that in rooms having glazed surfaces, china, marble, metal and the like, subsequent washing with solutions possessing recognized germicidal properties, as 5-per-cent. solution of formalin, 5-per-cent. carbolic acid, etc., should be employed. Thus, it is shown that while in formaldehyd gas we now have an efficient and harmless disinfectant for such objects as laces, plush, velvet, curtains, table-covers, hangings, and the like, when not of too heavy texture for which heretofore no satisfactory household method of disinfection had been devised, and while in many cases its action upon all objects may be efficient and satisfactory, and its action upon metals, picture frames, etc., harmless and non-corrosive, in cases of serious infection, in which it is possible that infectious matter, such as blood, saliva, sputum, feces, pus or urine may be dried upon wood floors, chamber-vessels, basins, washstands, glasses, metal bedsteads and other hard surfaces, its action should be supplemented by a cleansing and disinfecting solution possessing solvent and penetrating powers."

24. **The Gonococcus.**—The importance of the bacteriologic diagnosis of gonorrhea is insisted on by Bondurant and he thinks culture examinations in doubtful cases will amply repay for all the trouble. No one should treat urethral inflammation without making or having made an examination for specific disease.

25. **Aconite Poisoning.**—Magill reports a case of aconite poisoning which is of some importance as showing the possibility of demonstrating the presence of the alkaloid of this substance. There are few cases now recorded of aconite poisoning and in this one the amount of the poisoning for the first time could be positively determined. He says that to say, as has been said in recent years, that the combination of alkaloids in case of poisoning renders the toxicologic work impossible or its evidence valueless, is worse than pretense; it is ignorance. Throughout a long series of experiments they have yet to find an alkaloid they were not able to identify by these methods of animal administration and analysis, alone or conjoined with methods of chemical examination and control.

26. **Tuberculosis.**—Pottinger believes in the use of culture products in the treatment of tuberculosis as well as on its diagnosis, and disproves the idea that mere open air and change of climate is sufficient. Care without climate is better than climate without care.

29. **Alcoholic Psychoses.**—The mental disturbances from alcoholism are discussed by Beebe who takes rather the view that it leads to irresponsibility and that the inebriate is practically insane. He thinks we should preach the truth in regard to the action of alcohol and control the sale of the article; prevent the marrying of alcoholic subjects at almost any hazard, especially those whose intellects are involuntarily paralyzed by this agent, keeping them from propagating their species by shutting them up in well-organized institutions and building up as far as possible the damaged brain cells, before permitting their enlargement.

36. **Clinical Treatment of Inebriety.**—According to Crothers, inebriety is both a neurosis and psychosis and it is curable at some stage or other of its existence and at all stages can be checked. It requires the treatment for the conditions of poisoning, starvation and exhaustion. We should reach these conditions by elimination by the skin, bowels and kidney, brain and nerve rest, building-up treatment, mental and physical treatment and breaking up complications that have developed. We should study the exciting causes with the object of removing them or preventing or diminishing their power and influence. We should also consider the conditions that have grown out of the use of alcohol and the use of drugs to restore the patient and enable him to dispense with them in the future. The last point he mentions is the importance of individual treatment.

39. **Alcohol in Tuberculosis.**—Kelynack points out the close relation of alcohol to tuberculosis, showing by testimony of the various authorities how the spread of alcoholic habits aids in the production of tuberculous disease.

51. **Cesarean Section in Placenta Previa.**—Schauta questions the value of Cesarean section in this condition and says that for many years he has used the method of bimanual version followed by the attachment of a weight of about three pounds to the fetal leg which is brought down through the vagina. The expulsion of the fetus, assisted somewhat by the continued traction exerted by the weight, is left to the natural sources until the umbilicus emerges from the vulva. From this point the case is managed in accordance with the usual method of dealing with breech presentations. A compilation of his cases during the past ten years shows a total of 234, of which 16 ended fatally. In some of these cases placenta previa could hardly be credited with the mortality. Even allowing this, however, the percentage, 6.8, is not a high mortality, especially in view of the condition in which the patients are brought to the hospital. The advocacy of Cesarean section in all cases, which necessarily includes all cases where the simplest opening of the amniotic sac suffices to stop the hemorrhage, hardly deserves serious consideration. He, therefore, limits his remarks to severe cases of central or total placenta previa. To replace version by Cesarean section in those cases would only add dangers to those already existing. The operation can not be at once performed even in well-equipped hospitals, while version is always available. Deep narcosis is necessary and there must be a certain amount of blood lost, for often copious hemorrhage can not be avoided. The placenta must be peeled off after removal of the fetus with the danger of uterine atony. He does not perform conservative Cesarean section in cases that were handled before entrance by untrustworthy people, provided the indication for operation is not absolute. Very few cases brought to the hospital conform to this indispensable requirement. The question whether the section promises to reduce maternal mortality in these cases, he thinks must be answered in the negative. As regards the chances of the fetus, he believes that they would be better if Cesarean section could be performed immediately on the appearance of the first hemorrhage, but if we look over the reports of cases we find only a small number of these children are fully developed. In his 234 children, only 92 were matured and the mortality of premature children is much more in these cases because they suffer from asphyxia due to the partial separation of the placenta from the uterus, and, therefore, he holds that we would not obtain better results as regards fetal mortality by operation.

53. **Malarial Hematemesis.**—From experience in tropical practice, Fest finds that hemorrhage or black vomit is not so rare in severe malarial cases, and reports instances. The blood in these cases is loaded with plasmodia and pigmentation increases the coagulability. The brain, in a case examined, was studded with many fine hemorrhagic dots. The enlarged blood corpuscles blocked the lumen of the capillaries and the thrombosis ensued, causing coma. Hematemesis is caused by a similar process in the gastric mucosa. The convulsive contractions during the vomiting strains the engorged capillaries and they rupture. Cachexia is no necessary condition for the symptom. Treatment must be anti-malarial and he uses hypodermics of quinin so as not to lose time and to prevent more vomiting. Medication by the mouth must not be considered until the stomach is perfectly at rest. If the hematemesis has been extensive, normal salt solution should be injected; to prevent collapse, dilute the blood, and thus diminish the formation of capillary thrombi.

57. **Muco-Membranous Colitis in Children.**—Zahorsky concludes that muco-membranous colitis is a rare condition in children and that there is no evidence of its special existence in children excepting those in which the name mucous abscess can be applied. The pathologic process and clinical history is similar in children and adults and the term mucous disease should be dropped.

58. **Dysentery.**—Fisch describes the intestinal changes in amebic dysentery, consisting largely in colonic alterations, thickening, ulceration, the process involving the submucous tissue, ulceration formed by submucous degeneration which extends into the intra-muscular layers with proliferation of connective tissue and absence of exudative process in the ordinary sense of the word. The connective tissue increase does not lead to fibrous interstitial substance, but to a homogenous, clear-looking, gelatinous material; in later stages this becomes edematous. The peritoneum is involved, leading to adhesions, the mesenteric glands are swollen, liver abscess may occur and also necrosed areas in the liver. The lung may also become involved as he finds in one of his cases observed, the foci of softening, in the lung tissue, containing glairy, whitish red material with shreds of necrotic tissues intermixed and apparently without any indication or without any relation to bronchial lesions, but corresponding closely to those found in the liver and intestines. The lesions of bacillary dysentery have nothing in common with those described. The agglutination test is distinctive.

72.—See abstract in THE JOURNAL of February 15, p. 472.

73.—Ibid.

75.—Ibid., p. 473.

76. **Heredity.**—Krauss has investigated the subject of heredity as shown in the statistics of the New York asylums for the insane for the years 1895-96 and 1898-99 and also for the whole period since Oct. 1, 1888. He finds that taking cases only where data can be obtained, the percentage of heredity was in 1895-96, 39.2, in 1898-99, 41, which was very nearly the percentage for the whole period since 1888. These percentages vary largely in the different hospitals, some showing very much greater proportions than others. They indicate that maternal transmission is increasing rapidly over paternal transmission in cases of the insane in this district.

78. **Indican, Acetone and Diacetic Acid in Insanity.**—Coriat's article is an elaborate clinical paper reviewing the subject of indicanuria, acetonuria, etc., in the insane. He finds that it has been observed that the elimination of indican is greater in depressed and akynetic cases, but he does not see the reason to believe it due to intestinal auto-intoxication. Its origin is obscure and the significance can not be determined

or even hinted at without further study. We must first know more about the physiologic and pathologic chemistry of the various psychoses. As regards acetone and diacetic acid, the results are also inconclusive. He thinks their appearance may be referred to abnormal metabolism due to inhibition processes. He has not been able to detect the relation of acetone to fear, as pointed out by Marro. Auto-intoxication as a factor in producing akynetic conditions clinically manifested by the presence of acetone or diacetic acid in the urine, can, he thinks, be definitely ruled out.

85. **Typhoid Fever.**—Tomlinson gives a history of the experience in the insane asylum at St. Peter's, with this disease, which seems to be almost endemic there, appearing in the fall for a number of years in succession. Its source has been rather mysterious; the water and milk supply can be safely excluded. The recent experience of one of the nurses shows a possible source. A patient who had been in bed for some time and who was very filthy and destructive began to have fever and the nurse was apparently infected from this individual. He holds that the specific bacterium may exist in the intestines without causing the disease; that the source of infection has been present in the hospital for many years and that from time to time fresh infection takes place from patients or employes who have had an unrecognized attack of typhoid fever, or may be the immune carriers of the germ. In the time of overcrowding and when there are many destructive and filthy patients together, there is likely to be recrudescence of this state. The principal means of contagion are undoubtedly the hands and clothing of the patients and nurses by which the milk or food are contaminated or the patient infects himself from his own excreta. He warns that it is possible for a person to be infected with the bacillus of Eberth and carry it in the intestinal canal for an indefinite period of time, without sufficiently multiplying the bacilli to give rise to symptoms and then under the influence of some of the causes above mentioned, the contents of the intestinal canal become a medium of infection, and the lowered vitality admits of its rapid proliferation and resulting general infection. All the cases developing in the hospital, apparently *de novo*, have had a history corresponding to these conditions.

86. **Carbuncle of the Upper Lip and Face.**—This condition is described by Moore, who reports several cases. He does not believe that the conservative or expectant treatment is applicable excepting in those cases where the disease is so situated and is so mild that the natural tendency is to recovery. It is never indicated when the disease is on the upper lip or face. In this location it has had a mortality of 50 per cent. and is not to be trifled with. After thrombosis and embolism has occurred all treatment is hopeless. For cosmetic reasons early operation is also advisable.

89. **Cold Friction.**—Leadsworth advocates under this name a procedure which consists in the application to the surface of a body of a series of wet rubbings on one part after another, taken in systematic order until the whole surface has been vigorously reactive. The application is graduated by temperature and the degree of saturation of the mit which may be made of some rough material, a close-woven woolen cloth resembling haircloth being the best. He thinks this is indicated in all cases requiring tonic application; it is invaluable in neurasthenia and it affords the best of all means for training patients to endure the contact of cold water with the surface. It can be advantageously employed in anemia, chlorosis, tuberculosis, post-febrile convalescence, cardiac dropsy, anasarca from kidney disease, chronic toxemia accompanied by spasm of the peripheral vessels, cardiac inefficiency and wherever cold in any form is indicated. It is specially indicated, he thinks, in chronic disease where there is general torpidity of the bodily functions.

97. **Pneumonia.**—Maschke has experimented on cats and rabbits and concludes as follows: "The pneumococcus damages the circulation in the rabbit by paralyzing the vasomotor centers in the prolonged cord. This vasomotor paralysis leads to a fall in the arterial pressure, and causes, further, a changed distribution of the blood in the organism. The splanchnic vessels are overdistended, those of the brain, muscles and skin, empty. The heart is not concerned in these disturbances and is only damaged in consequence of its own deficient coronary circulation, which is secondary to the vasomotor paralysis. Romberg, as above stated, found in the hearts of patients dead from croupous pneumonia just as slight pathologic changes as were evidenced in the hearts of the infected rabbits. The close correspondence between these experimental findings and the clinical and postmortem findings in croupous pneumonia in the human subject makes it extremely probable that these deductions apply *in toto* to the human, provided we can disregard the factor of mechanic obstruction." He says, aside from minor factors, the sum of our knowledge of the state of the circulation in pneumonia is as follows: "The deleterious action of pneumonia on the circulation is primarily due to the accompanying toxemia, not to fever *per se*, but may possibly be secondarily somewhat influenced by the mechanic obstruction. The toxemia produces this circulatory depression, not by poisoning the heart or the heart-centers and nerves, but by directly poisoning the vasomotor centers in the prolonged cord and thus producing a vascular dilation. The heart is only affected late in pneumonia, and then because of its own deficient coronary circulation brought about by the abnormal distribution of the blood-supply."

98. **Treatment of Pneumonia.**—The various remedies used in pneumonia are reviewed by McGee. Quinin has been practically discarded as an abortive agent and of the cardiac depressants, veratrum viride is probably the only one administered with this end in view, and this only to a very limited extent. In fact, the use of cardiac depressants is generally condemned by the profession in this disease. Alcohol is a drug of uncertain status, but it is of the greatest value when given with judgment, though not as a routine remedy. In the asthenic and elderly, in the alcoholic and in the presence of toxemia with a weak heart and nervous symptoms, when well-borne, it is of the greatest value. In bronchial pneumonia, especially in children, it can be used with benefit. In some cases of pneumonia with very slight lung involvement, but with extreme toxemia, alcohol is often of value, as aiding the patient in resisting infection. Nitroglycerin may be of some use in the case of cyanosis, but he doubts its value, as a rule. Death in pneumonia often occurs from heart failure, hence the use of strychnia, which is more used as a routine practice than probably any other drug. As a respiratory stimulant it excels and it is a real stimulant for all the medullary centers. Its use should be reserved until the condition calls for it, and then given in full dose, 1/30 or 1/20 of a grain, given every few hours. Digitalis is advisable to support the heart in some cases, but the medium dose is the best and given at long intervals. The creosote derivatives have been highly praised of late. Carbonate is the form probably most used. He has used guaiacol carbonate in 5-gr. doses every few hours for sometime past and apparently with benefit, so that he gives it now almost as a matter of routine. It apparently has an antiseptic effect upon the pneumococcus or its toxins and it may produce an antipyretic effect. The serum treatment of pneumonia is still in the experimental stage but deserves further trial. Normal salt solution is sometimes of value in facilitating elimination. Remedies such as opium and oxygen may be required for special indications, but not to cure pneumonia in a specific sense.

102. **Irregular Pulse.**—Patton finds that irregular pulse is not usually an invariable manifestation of myocarditis or myocardial disease; nor is it a usual manifestation, and that the degree of irregularity has no relation to the extent of the myocardial involvement. The symptom has no special indication *per se* in relation to insurance examination other than to demand investigation of its cause, particularly as to the presence of cardiac, cardio-vascular, or nephritic lesions, the presence of which may be indicated by such irregularity, but just as frequently is not.

111. **Insomnia.**—Skelton groups the causes of insomnia into the following: 1. The interference with the normal with-

drawal of stimuli. Irritation of the sensory nerves. 2. Irritation of the visceral organs. 3. Over-activity, irritable exhaustion of the cerebral neurons. 4. Intoxications of cerebral neurons. 5. Hereditary unbalanced and irritable neurons. The employment of narcotics is the most irrational treatment, as in most cases of insomnia a toxemia is present and the toxic factor is often so prominent as to force itself on the attention. It is not necessary that afferent sensations should be consciously appreciable to produce insomnia. The treatment consists in the management of the clinical condition and he outlines in a general way his experience as follows: 1. The induction of muscle fatigue by walks in the open air or by massage. Many people can not sleep because their muscles are not tired and their nervous system is over-excited. 2. The clearing away of intestinal and hepatic accumulations by sulphate and salicylate of soda, combined or not with citrate of potash and lithia. This diminishes auto-intoxication and irritation from distended viscera and aids the circulatory equilibrium. 3. The giving of a proper amount of easily-digested food. 4. The use of a hot bath. 5. Proper sleeping rooms, where seclusion can be had; the victim of insomnia should sleep alone. As regards the action of hydrocarbons, hypnotics and narcotics, we should remember that they interfere with normal metabolism and are purely symptomatic in their usefulness, and have objectionable secondary and side effects, and are used only because of ignorance of the underlying cause of the symptoms, of our inability to control these causes. In a general way we may formulate the indications for their use as follows: Insomnia from pain: Morphin, coal-tar products and large doses of chloral. Insomnia from delirium and reflex irritability: Chloral, trional, sulphonal. Insomnia from delirium and chronic insanity: Hyoscyamin, combined with morphin. Insomnia from "nervousness," "worry": Bromids, given in sufficient doses—twenty grains three or four times in the daytime—is incomparably the best and safest hypnotic. It is to be recollected that morphin increases reflex irritability. The chlorals depress the medulla and are dangerous in heart and vascular diseases, lung, kidney and stomach irritalibity. Sulphonal and trional cause nephritis.

117. **Abdominal Aneurism.**—Browning reports three cases treated by rest, restricted diet, administration of gelatin, iodid of potash, etc., with good results.

121. **Ovarian Transplantation.**—Morris calls attention to a matter of priority. His first publication on the subject of ovarian transplantation was several months ahead of that of Knauer, and he attributes Knauer's work and publication to the fact that one of his assistants when in Europe talked about his experiments there and found a great deal of skepticism manifest. He thinks this is parallel with other facts. He had demonstrated in Germany how moist blood clot could be utilized by surgeons before publishing his paper on the subject and on his return to this country found that a German surgeon who had been most skeptical had secured priority of publication and the method is now known by his name only.

141. **Cold Abscess.**—The management of this form of tubercular disease is summed up by Townsend as follows: 1. Carefully treat the joint disease. 2. If abscess appears, endeavor to keep it sterile. 3. Aspiration, unless there is some indication for incision. 4. If the abscess is sterile and incision is decided on, do so under strict aseptic precautions. 5. If abscess becomes infected, open at once. 6. Use sterile water or sterile salt solution for cleansing the cavity, in both the sterile and the infected cases.

146. **Glaucoma.**—Coburn has experimented to induce glaucoma in animals by studying the course of the lymph streams in the anterior segment and endeavoring to affect them, studying the effect of increased pressure on the anterior and posterior chambers, by experiments with the results of introduction of foreign material into the eye, and with the indirect introduction of substances through the circulation and the closure of channels of exit by affecting the changes in the ciliary region and aqueous. The animals employed were cats and albino rabbits. The summary of the results is as follows: 1. Intraocular changes may be induced by deleterious substances in the circulation. 2. The effect of irritating material in the circulation induces, first, congestion of the ciliary body and iris and then vesical formation in the ciliary region followed by fibrinous exudate into the anterior and posterior chambers. 2. Fibrinous and albuminous exudates have a predilection for the anterior chamber, depositing or forming on the anterior surface of the iris and in Fontana's spaces. 4. These deposits, usually accompanied by deep anterior chamber, block up the exit at the angle and increase the tension. When the irritation is brief the exudate may be absorbed and the tension return to normal. If the irritation is sufficiently prolonged or intense, glaucomatous iritis with its attending evils may ensue. 5. The cause of glaucoma is apparently some lesion which pushes the iris and lens forward, making the anterior chamber shallow and blocking the exits at the angle with the root of the iris. This cause is to be found in the ciliary body and processes. He remarks that while these experiments have not added directly to our knowledge of the cause of glaucoma, they have thrown new light on the functions of the ciliary body and iris and on the conditions in which serous and fibrinous iritis and cyclitis occur, showing that the intraocular circulation of certain substances is quite sufficient to produce these diseases. Therefore, the constitutional element should not be disregarded in their treatment.

148. **The Visual Field of Glaucoma.**—Variations of the visual field in glaucoma as studied by Bunge, Bjerrum and others are reviewed by Friedenwald, who concludes that Bjerrum's view that the defect is due to interruption in the course of the nerve fibers as they pass through the excavated portion of the papilla is best corroborated. He finds no correspondence whatever between the defect and the course of the arteries, and he is convinced that however important the sclerotic changes in the vessels may be in the pathology of glaucoma, they are not the cause of the interesting forms of field defects as first described by Bjerrum.

165.—See abstract in THE JOURNAL, xxxvii, p. 929.

166.—Ibid., p. 1059.

168.—Ibid., p 1057.

171.—Ibid., p. 995.

172.—Ibid., p. 1057.

173.—Ibid., p. 1058.

174.—Ibid., p. 997.

FOREIGN.

Titles marked with an asterisk (*) are abstracted below.

British Medical Journal (London), May 24.

1 *Myasthenia and Ophthalmoplegia. William R. Gowers.
2 Traumatic Epilepsy with Adhesion of Skin to Brain; Treated by Insertion of Gold Foil. Rushton Parker.
3 A Case of Complete and Temporary Paralysis of the Limbs of a Child. Judson S. Bury.
4 Case of Sporadic Cretinism, in Which a Relapse Occurred Owing to Omission of Thyroid Extract. Arthur Hall.
5 Myxedema in Mother and Child. S. W. Macilwaine.
6 *Diazo-Reaction as a Method of Diagnosis in Clinical Medicine. H. W. Syers.
7 Three Cases of Cerebrospinal Fever Treated with Antipyrin. E. C. Freeman

The Lancet (London), May 24.

8 *Thirty Years' War Against Lunacy. T. Claye Shaw.
9 Acute Pleurisy with Effusion. George R. Murray.
10 A Contribution to the Study of Tropical Abscess of the Liver. Rickman J. Godlee.
11 *Is Chloroform More Dangerous Than Ether? H. Challice Crouch and Edred M. Corner.
12 The Feeble-Minded and Crime. Mary Dendy.
13 Improvements in the Operation for the Radical Cure of Inguinal Hernia by the Use of Some New Instruments and Gold-wire Sutures. Iginio Tansini.
14 A Case of Perforation of the Rectum into the Peritoneal Cavity; Laparotomy; Suture; Recovery. G. R. Turner.
15 A Short Note on the Use of Linen Sewing-Machine Thread for Ligatures and Sutures. Arthur E. J. Barker.
16 Meningo-Encephalocele. Edgar Du Cane.
17 Observations on Diet. Harry Campbell.

Journal of Tropical Medicine (London), May 15.

18 The Sleeping Disease (Doenca Da Domno). Report Sent to the Portuguese Minister of Marine by the Scientific Committee Sent to Study the Sleeping Sickness in West Africa, on Feb. 21, 1901.

19 The Duration of the Latency of Malaria After Primary Infection, as Proved by Tertian or Quartan Periodicity or Demonstration of the Parasite in the Blood. (Continued.) Attilo Caccini.

Archives de Neurologie (Paris), May.

20 Cas d'hystéro-épilepsie à crises distinctes, avec ecchymoses spontanées et accès de fièvre hystérique. Mutterer (Mulhausen).

21 *Observation de paralysie générale gémellaire homomorphe. P. Keraval (Armentières).

Bulletin de l'Acad. de Med. (Paris), May 6.

22 Impotence from Abuse of Tobacco. Le Juge.—Impuissance provoquée par l'abus du tabac.

May 13.

23 *Sur les accidents et la mort par le chloroforme. Laborde.

Semaine Medicale (Paris), May 21.

24 *Valvular Affections of the Heart Induced by Muscular Effort, from the Standpoint of Industrial Insurance. F. De Quervain (Chaux-de-Fonds).—Des lésions valvulaires du coeur par effort au point de vue des accidents du travail.

Centralbl. f. Chirurgie (Leipsic), May 10.

25 *Gauze Veils for Aseptic Operations. F. Wenzel (Bonn).—Die Verwendung von Gazeschleiern bei aseptischen Operationen.

26 Exclusion of Intestine. F. Kammerer (New York).—Zur Frage der Darmausschaltung mit totaler Occlusion.

May 17.

27 Technische Bemerkungen zur Winkelmann'schen Hydrocelenoperation. W. Mintz (Moscow).

Centralbl. f. d. Grenzgebiete (Jena), May 10.

28 *Ueber die Behandlung des Ileus mit Belladonnapräparaten. F. Honigmann (Breslau).—Collective Review. (Concluded from No. 7.)

29 *Die chir. Komplikationen der Influenza. J. Ruhemann (Berlin).—Collective Review.

30 Muskelatrophien nach Frakturen, Luxationen und arthritischen Gelenkserkrankungen. G. Flatau (Berlin).—Collective Review. (Concluded from No. 8.)

Dermatologische Zeitschrift (Berlin), April.

31 Unusual Gonorrheal Affections. J. Heller (Berlin).—Beiträge zur Casuistik seltener gonorrhoischer Erkrankungen.

32 Ueber das Vorkommen des Bacterium coli commune bei postgonorrhoischer Urethritis. R. Ledermann (Berlin).

33 *Praktische Methode der Prophylaxe der Gonorrhoe. C. Fermi (Sassari).

34 Das Atoxyl (Metaarsensäureanilid), ein neues Arsenpräparat und dessen dermatotherapeutische Verwendung. W. Schild (Berlin).

Deutsche Med. Wochenschrift (Leipsic), May 15.

35 Determination of Outline of Right Heart by Auscultatory Percussion. C. A. Ewald (Berlin).—Ueber die Bestimmung der rechten Herzgrenze durch auskultatorische Perkussion.

36 *Determination of Outlines of Internal Organs by "Stick Auscultation." E. Reichmann (Berlin).—Weitere Mittheilungen ueber die Grössenbestimmung innerer Organe durch die "Stäbchenauskultation."

37 *Diagnostic Significance of Old Tuberculin. Bandelier.—Ueber die diagnostische Bedeutung des alten Tuberkulins.

38 Operation for Large Umbilical and Cicatricial Hernia. Heinrich (Bremerhaven).—Ueber Operation grosser Nabel- und Bauchnarbenbrüche.

39 *Zur Technik der Mikroskopie der Fäces. P. Cohnheim (Berlin).

40 *Chlorinated Lime in Treatment of Ulcus Cruris. W. Zeuner.—Zur Behandlung der Unterschenkelgeschwüre.

41 The Antituberculosis Campaign in Russia. A. Hippius (Moscow).

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42 Ueber Pneumococcensepsis. A. Prochaska (Zurich).

43 *Die Hydrotherapie der Tabes. S. Munter (Berlin).—Ibid. A. Eulenburg (Berlin).

44 *Intermittent Hydrarthrosis. O. Burchard (Riga).—Ueber intermittirende Gelenkwassersucht.

45 Bone Charcoal as Substitute for Iodoform. A. Fraenkel (Vienna).—Knochenkohle als Ersatz für Iodoform.

Mittheilungen a. d. Grenzgebieten (Jena), ix, 4 and 5.

46 *Gallstones. A. Merk (Heidelberg).—Zur Pathologie und Chirurgie der Gallensteine.

47 *Metastatic Kidney Abscesses. M. Jaffe (Posen).—Zur Chirurgie des metastatischen Nierenabscesses.

48 Rigid Spine. A. Magnus-Levy (Strassburg).—Ueber die chron. Steifigkeit der Wirbelsäule.

49 *Influence on the Organism of Artificial Fistula Between Gall-Bladder and Intestine. A. Radsiewsky (Kiev).—Die künstliche Gallenblasendarmfistel und ihr Einfluss auf den Organismus.

50 *Importance of Kidney Affections in Respect to Pregnancy and Childbirth. H. Fehling.—Ueber die Bedeutung der Nierenerkrankungen für Schwangerschaft und Geburt.

51 *Infantile Stenosis of the Pylorus. Trantenroth (Bochum).—Die Pylorusstenose der Säuglinge.

52 Falsche Divertikel der Flexura sigmoidea und des Processus vermiformis. V. E. Mertens (Breslau).

53 Eine Operative Heilung von Gastritis phlegmonosa diffusa. Lengemann (Berlin).

54 Study of Influence of Cerebral Compression on the Intracranial Circulation and Its Manifestations. Harvey Cushing (Baltimore).—Physiol. und anat. Beobachtungen ueber den Einfluss von Hirnkompression auf den intracraniellen Kreislauf und ueber einige hiermit verwandte Erscheinungen.

Muenchener Med. Wochenschrift, May 13.

55 *Ueber Paranephritis und Pyonephrose nach Hautfurunkeln. A. Cahn (Strassburg).

56 Laryngeal Tuberculosis. R. Freytag (Magdeburg).—Ueber Kehlkopftuberkulose.

57 *Influencing the Liver by the Diaphragm, and Massage of the Liver. K. Walz (Oberndorf).—Ueber die Beinflussung der Leber durch das Zwerchfell und ueber Lebermassage.

58 *The Need of Food at High Altitudes. K. E. Ranke (Arosa).—Der Nahrungsbedarf im Hochgebirgs-Winter.

59 *Foreign Bodies in the Uterus. F. A. Hermann (Fürth).—Ueber das Vorkommen von Fremdkörpern im Uterus.

60 Reflexkrämpfe bei Ascaris lumbricoides. J. P. Naab (Diabekir).

61 Prevention of Puerperal Fever. M. Hofmaier (Würzburg).—Zur Verhütung des Kindbettfiebers.

Therapie der Gegenwart (Berlin), May.

62 Influence of the Position of the Body on Gastric Motor Function. J. v. Mering (Halle).—Einfluss verschiedener Körperlagen auf die motorische Funktion des Magens.

63 Roborat in Diet of Consumptives. S. Cohn (Berlin).—Das Pflanzeneiweiss "Roborat" in der Ernährung Tuberkulöser.

64 Diphtheriestatistik und Serumbehandlung. W. Feilchenfeld.

65 New Purgative. Z. v. Vamossy (Budapest).—Ueber ein neues Abführmittel (Purgen).—Ibid. E. Unterberg.

66 *Klin. und anat. Beitraege zur Atmokausis uteri. Hammerschlag (Königsberg).

67 Diphtheria Statistics of a General Practitioner. C. Jaenicke (Apolda).

68 A New Substitute for the Salicylates. Pieper.—Rheumatin—ein neues Ersatzmittel für Salicyl. Präparaten.

Wiener Klin. Rundschau, March 30 to May 11.

69 (No. 15.) Research on the Nature of Immunity. F. Obermayer.—Biologische-chemische Studie ueber das Eiklar.

70 (Von Leyden Number.) *Blood Pressure in Chronic Nephritis. E. v. Czyhlarz (Vienna).—Ueber das Verhalten des Blutdruckes bei chron. Nephritis.

71 *Diagnosis of Pleuritic Effusions. A. v. Koranyi (Budapest).—Ein Beitrag zur Differentialdiagnostik pleuritischer Ergüsse.

72 Central Innervation of the Larynx. A. Onodi (Budapest).—Die Lehre von der centralen Innervation des Kehlkopfes.

73 Zur Frage der chronischen Myelitis. A. Pick (Prague).

74 *Einiges ueber Mumps (Parotitis epidemica). F. Pick (Prague).

75 Ueber das Coma dyspnoicum bei Uraemie. F. Pineles (Vienna).

76 Contribution to the Malaria Question. S. Purjesz (Kolozsvar).

77 *Ueber Puerperal-Rheumatismus. G. Singer (Vienna).

78 Nervöse Hyperthermie. A. Strasser (Vienna).

79 *Treatment of Tuberculous Hemoptysis. A. v. Welsmayr (Aland).—Die tuberculöse Haemoptoe und ihre Behandlung.

80 *Diet and Treatment in Chronic Kidney Affections. J. Wiczkowski (Lemberg).—Zur Ernährung und Therapie der chron. Nierenkranken.

Hospitalstidende (Copenhagen), April.

81 (No. 17.) *Den akut hemorrhagiske Pancreatitis. L. Kraft. (Concluded from No. 15.)

82 Lysoform. F. Pontoppidan.

83 (No. 18.) Oversigt over den radikale Mastoidaloperations Historie og Teknik. J. Moeller.

Gazzetta degli Ospedali (Milan), May 4 to 18.

84 (No. 48.) *Cured Case of Exophthalmic Goiter. L. C. Massini.—Sulla malattia dei Flajani.

85 Contributo allo studio delle uretriti non gonococciche. T. Vincenzo.

86 *Spinal Cocainization in Sciatica. A. Magri.—La rachicocainizzazione nella sciatica.

87 Note cliniche ed osservazioni esperimentali sul piramidone. G. Vincenzo.

88 (No. 51.) Contributo alla statistica delle localizzazioni rare delle cisti da echinococco. A. Mori.

89 *Splenectomia per milza malarica ptosica. F. Carini.

90 Azione dell' Eroina sulla pressione arteriosa. P. R. Zavaldi.

91 (No. 54.) *Di una nuova ipotesi sulla patogenesi delle seborree. D. G. Tito.

Hygiea (Stockholm), May.

92 *Difficulty in Diagnosing Certain Cases of Typhoid Fever and Appendicitis. K. Dahlgren (Uppsala).—Diagnostika svårigheter vid vissa fall af febris typh. och epityphlitis.

93 *Om betydelsen af hyperplastika och tuberkulösa processer i farynxtonsillen. B. Floderus. (Concluded from preceding number.)

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1. **Myasthenia and Ophthalmoplegia.**—Gowers calls attention to a peculiar facial expression which he calls the nasal smile, as characteristic of the myasthenic cases. Its features are absence of normal movement from the corner of the mouth, which either carries the furrow from the nose around the corner of the mouth or produces a separate depression there. Loss of power in the eyeball muscles is also a symptom of myasthenia which has not been fully recognized and which is prominent in three cases here reported. It resembles at first sight the ophthalmoplegia from nuclear degeneration, but there are differences; one the great escape of muscles moving the eye downward and the implication in various degrees of those moving the eye-

balls upward. The constant and irregular action of the lateral muscles was most incomplete, showing remarkable variations in the different periods. In all cases the light-reflex of the iris was perfect and he thinks this is the rule. Accommodation seemed to be impaired in two cases. Ptosis was a marked feature. The two features of "nasal smile" and ophthalmoplegia are the ones to which he wishes to call attention and the significance of the fact of the former that it corresponds more closely to that in idiopathic muscular atrophy than to known affections of the nervous system. The distribution of symptoms in the muscles is also more analogous to muscle atrophy than to central nervous disease, but the ophthalmoplegia from its resemblance to the nuclear form is more suggestive of central disorder. The microscope gives very little revelation as regards the nature of this affection. The definition of the trouble, nutritional disorder impairing the vital processes in the muscles, is little more than the statement of the symptoms. The toxic theory of the disease is considered by Gowers to have very little positive evidence in its favor and little benefit seems to have resulted from treatment.

6. **The Diazo-Reaction.**—Syers has investigated some 125 cases of typhoid with the diazo-reaction and finds that no striking practical points of value are shown and, according to him, it is of little value. In the early stages it gives a negative result, and when the reaction is positive the disease is usually so far advanced that there is no question as to the diagnosis. He thinks we overvalue laboratory tests.

8. **Lunacy Administration in England.**—The history of lunacy administration for the last thirty years is reviewed by Shaw, who notes the advances that have been made, perhaps not so much in the proportion of cures as in the better management of patients, thus lessening the number of accidents. He lays much of the comparatively easy management of the insane of late years to the disuse of stimulants both on the part of the patients and the attendants. Another reform which has come into vogue of later years is undivided authority in asylums, giving the medical superintendent more complete power; another seems to be clinical instruction in insanity; and still another the accommodations for the insane, which are greatly improved. The patients are more comfortably and sanitarily managed. As regards the results in the statistics of cures and deaths we must wait. He thinks it would be a good idea to have a temporary detention hospital for acute cases thoroughly equipped with a complete visiting staff of neurologists and specialists. He speaks rather favorably of the utility of surgery in insanity, especially operations on the brain. The home management of the insane he does not look upon with favor. Asylum statistics are not considered by him as on a whole specially valuable, some of the tables being valueless, others being misleading. Heredity, he thinks, is over-estimated, and in conclusion he insists on the close connection between the studies of neurology and insanity, which at present in Great Britain are almost divorced.

11. **Chloroform and Ether.**—Crouch and Corner believe from their statistics, which cover more than 3000 anesthesias in the St. Thomas Hospital, that ether in its way is less safe than chloroform. There were ten cases of respiratory complications, all from ether administration, the patients all having been in good condition and the anesthetic being given under favorable conditions by the house officers. All were trunk cases, and such as required bandaging, that of necessity restricted the chest and abdominal movements. In one case of broncho-pneumonia the outcome was fatal. In 600 patients who had chloroform none developed any respiratory trouble. They, therefore, recommend chloroform in all long operations on the trunk. All the cases had the preliminary administration of nitrous oxid and they think from their analysis that the ether was more or less responsible for the complications. In a postscript they speak also of two cases of death during anesthesia, one from ether and one from chloroform. In neither case did they credit it to the anesthetic. They strongly recommend changing the anesthetic to chloroform after ether has been given to the patient for a time.

21. **General Paralysis in Twins.**—The case described by Keraval relates to twins, married men, with no known personal or hereditary morbid antecedents nor abuse of liquor. They did not live together. Both developed typical general paralysis, one at the age of 39 and the other at 47, thus eight years apart, and in each it assumed an exactly similar form (délire de négations). The clinical history of each reads precisely the same, the same ideas, expressed in the same phrases, with the same reactions and the same evolution.

23. **Prevention of Accidents from Use of Chloroform.**—THE JOURNAL has described at various times Laborde's method of resuscitating in cases of apparent death by rhythmic traction of the tongue, and the physiologic processes on which it is based. The method was first worked out to reduce the laboratory expenses from the number of dogs that died under chloroform in the experimental researches. It has since been applied in innumerable cases of apparent death in man and animals and has proved wonderfully successful, especially in chloroform mishaps. Laborde in this communication studies the physiologic processes involved in general anesthesia and proclaims that it is the surgeon's duty to suppress the primary, reflex functional arrest of respiration caused by the intensity of the patient's emotion, or by irritation from the fumes of the anesthetic, or by both combined. This is easily accomplished, he asserts, by a preliminary injection of some analgesic or by local cocainization. He prefers a combination of 10 cg. of morphin hydrochlorate; 5 cg. of atropin sulphate, which is a physiologic-toxic but not therapeutic antagonist of morphin; 1 gm. of spartein sulphate, which has a direct stimulating action on the heart muscle, with 10 c.c. of distilled water as the vehicle. Of this, a dose of 1 c.c. is sufficient. This preliminary injection prevents all danger of primary functional arrest of respiration. It should invariably be supplemented by applying special traction forceps to the tongue so as to be ready to practice rhythmic traction at the slightest suspicion of trouble. The forceps should be placed on the tongue at the commencement of the anesthesia. He thinks that surgeons who fail to take these precautions are directly responsible for the accidents that are liable without them. He has the assistant smooth the chest with slow rhythmic friction as a soothing measure to tranquilize the patient.

24. **Valvular Affections Induced by Muscular Effort.**—De Quervain observes that while these affections are less frequent than what he calls traumatic lumbago and "force hernia," yet they are assuming great importance in these days of increasing industrial insurance. Several recent Paris and Berlin theses have been devoted to this subject, founded on personal observation of such cases, and De Quervain adds another to the list. The records demonstrate that a predisposing cause was apparent in nearly every instance, some acute infectious disease or arteriosclerosis, nephritis, gout, syphilis, or some chronic intoxication as from alcohol. Tabes seems to afford a peculiar tendency to laceration of the aortic valves. But it is possible that a violent effort might injure a sound heart in this way. The effort was a sudden movement to avoid a fall, or the exertion of lifting a heavy weight, with or without the basis of exaggerated continuous muscular exertion. The left heart was almost invariably the site of the injury. It did not affect the mitral valve itself in 12 cases reported by Dreyfuss, but merely the chordæ tendinæ or the columnæ carnæ. In several cases vegetations were scattered on the lacerated fragments and on the valves, but it was impossible to determine whether these were primary or secondary to the injury. The aortic valves were involved twice as frequently as the mitral. In the personal case described the subject made a sudden, violent effort to prevent the fall of a large cask of wine he was unloading. He was 35 years of age, previously healthy, with no morbid antecedents except a few alcoholic excesses several years before. He felt as if he had been struck in the chest with a whip and had immediate epistaxis, followed by gradual cyanosis, rapid pulse and constant distress. In three weeks an intense and harsh systolic souffle was audible over the mitral valve, and the patient died

with symptoms of infectious endocarditis and cerebral embolism seven weeks after the accident. The autopsy showed recent endocarditis and laceration of chordæ. The prognosis of such lesions is generally unfavorable, and they materially impair the working capacity if the subject survives. The diagnosis is based principally on the sensations at the time, the rapid development of cardiac disturbances and the more or less pronounced hemoptysis during the first few days. The development of infectious endocarditis later is a point in favor of the traumatic origin of the trouble, if the subject had no suppurative affection at the time inducing a special predisposition to endocarditis.

25. **Gauze Veils for Aseptic Operations.**—This communication from Witzel's clinic describes a headgear which is a combination of cap, mask and beard protector in a single piece. It is merely a square of gauze, or a piece 80 cm. long by 50 wide. The gauze is folded between the first and second third and a slit about 30 cm. long is cut in it. A strong thread is fastened at each end of this slit or a couple of tapes sewed on. The gauze is then thrown over the head, bringing the slit opposite the eyes. The tapes or threads are then tied at the back of the neck and as the large apron is put on, the loose edge of the gauze in front is tucked loosely into the neck of the apron. The head, face and mouth are thus completely covered and only the eyes left exposed. The gauze is so light and the entire contrivance is so loose that it causes no discomfort even on the warmest day, while it guarantees absolute asepsis as the gauze can be easily sterilized folded in a towel. Witzel makes the square out of three layers of gauze, although two layers might be sufficient, he observes. He does not use gloves in aseptic operations as he thinks that scrupulous avoidance of infection is the best means of ensuring asepsis, but considers a head covering an absolute necessity.

28. **Treatment of Ileus with Preparations of Belladonna.**—By grouping and tabulating the results of the treatment of ileus with atropin in the published reports, Honigmann shows that failure is inevitable in case of "strangulation ileus" or incarcerated hernia, and the procedure is directly injurious in such cases. On the other hand, it sometimes proves very effective in cases of ileus from occlusion as also in any dynamic or functional interference with the permeability of the intestines. The effect of the belladonna preparations is essentially sedative. No data have been recorded as yet which indicate that they are capable of stimulating the movements of the intestines. The soothing effect of atropin in subcutaneous injection is frequently apparent after even a small dose, not more than .5 to 2 mg., but in other cases not until after repeated and larger doses. The single dose of 5 mg. recommended by Batsch should never be given to start with. It is better to commence with .5 mg. doses to test the individual susceptibility. People over 50 display evidences of intoxication after small doses more than younger subjects with large doses. Atropin does not seem to possess any particular advantage over opium, while it has the disadvantage of easily inducing symptoms of intoxication. It should, therefore, be administered only in case of the failure of opium. When the injection of atropin has not produced the desired effect in the first two days, in the passage of flatus and stools, the euphoria following its use should not delude the physician or patient into further delay of the necessary surgical intervention. Only in those cases in which an operation is absolutely refused or is impossible for any reason, should the atropin treatment be longer continued.

29. **Surgical Complications of Influenza.**—Ruhemann has been able to collect one hundred communications on this subject. They show a remarkable range of post-influenza affections which includes ulcerative stomatitis, general osteomalacia, suppurative parotitis, abscesses in lungs or throat, gangrene of the lungs, epididymitis and orchitis, pyemic joint affections, thrombosis, tendency to hemorrhages and surgical affections of the eye and ear. Franke has observed a number of nervous affections on a neuritic basis which simulated surgical lesions and led to mistaken intervention, as for instance, neuritis of the intercostal and lumbar nerves which simulated peritonitis or appendicitis; neuritis of the axillary nerve which simulated rheumatism of the shoulder, and of the obturator nerve simulating a knee affection. Ruhemann concludes by warning against undertaking any surgical intervention not indicated by some complication of influenza, during convalescence from influenza or during the prevalence of an epidemic of la grippe. Demons has especially urged to refrain from surgical intervention on the upper air passages during recovery from influenza as the danger of suppuration has impressed him as particularly imminent at such times. By this precaution it is possible to avoid the pyemia liable to occur in such cases, so puzzling for the surgeon who overlooks the cause in the latent influenza infection.

33. **Practical Method of Prophylaxis of Gonorrhea.**—Fermi reaffirms the great advantages of his simple and practical method of curing gonorrheal infection in men. It is absolutely harmless and secures more certain and permanent cures than other measures in vogue while its action is so prompt that it can be called abortive. He uses a bulb syringe with which he injects about 100 to 200 c.c. of a 1 per 2000 solution of permanganate, or of 1 per 5000 solution of nitrate of silver, or 2 or 3 per 1000 solution of protargol. The fluid is forced into the urethra and then aspirated again into the bulb, reinjected and reaspirated a number of times in succession, which only requires a few seconds. The bulb full of the reaspirated fluid is put in its small metal box and slipped into the pocket. The procedure is repeated three times a day, but the total time spent on it is not more than twenty or thirty minutes. The same fluid is used over again each time during the day, which renders this method of treatment easily practicable. Nothing has to be carried on the person excepting the bulb syringe. The inflammation is reduced by keeping the penis wrapped in a strip of gauze 50 by 8 cm. applied very loosely and held by two bands around the trunk. It is moistened three or four times a day with cold water without removing the bandage for the purpose. Both rinsing and the application of cold water should never be neglected before retiring. The fluid used first in the morning is thrown away. This method has been applied on a large scale in the Italian army and has proved superior to all others, it is stated.

36. **Improved Technic for Stethoscopy.**—Reichmann's improvement consists in a round stick about 7 cm. long by .5 cm. in diameter. It is grooved with a screw thread and the fingers are rubbed up and down on the stick held perpendicularly on the skin while listening through a stethoscope. The sound varies with the organs beneath and the information thus obtained is proving surprisingly accurate and valuable. The technic was described in THE JOURNAL of December 14, 1901, p. 1642. In his present communication Reichmann corroborates the importance of this "Stäbchen-Auskultation." The sticks can be made of wood, ivory, rubber or bone. He prefers the latter. It serves better than any other measure at our disposal to determine the size and the outlines of internal organs and their position in regard to each other, but it imparts no information in regard to the normal or pathologic structure of single organs.

37. **Diagnostic Significance of Tuberculin.**—Bandelier is chief of the Cottbus sanatorium for pulmonary diseases. He applies tuberculin when the patients leave, as a means of determining the thoroughness of the clinical cure. He has found that 60 per cent. of all the patients no longer react to a dose of 10 mg. of Koch's old tuberculin. He does not include in this list those who were treated with tuberculin, but merely those for whom it was applied as a diagnostic measure. He urges others to adopt it as the most reliable means of early diagnosis and as the most certain means of determining the extent of the cure.

39. **Improved Technic for Microscopy of the Feces.**—Cohnheim recommends for the purpose of obtaining a scrap of feces for microscopic examination, a small instrument which consists of a stout glass tube about seven inches long, terminating in a small hollow olive provided with a fenestra. It can be readily inserted in the rectum, and fluid feces fill the

bulb at once, while by twisting the tube in the fingers, the fenestra scrapes into the bulb a small plug of feces if they are solid. The little instrument is easily cleaned and disinfected by forcing water through it from the open end of the tube. By its use the physician can usually obtain at any moment sufficient feces for the miscroscope while the patient is spared the inconvenience of bringing it in some receptacle to the office. Another advantage is that infusoria can be inspected alive while they are always dead by the time the feces derived in any other way reach the microscope.

40. **Chlorinated Lime in Treatment of Ulcus Cruris.**—Zeuner's experience with a hundred cases of ulcus cruris treated with a 1 per cent. filtered solution of chlorid of lime, has convinced him that this simple, old-fashioned remedy is the most effective of all at our command. He applies it on several thicknesses of gauze and then wraps the leg in a tricot bandage, commencing at the toes. The purulent secretions dry up almost at once; the lesion presents a clean granulating surface and the formation of skin is exceptionally perfect. He has found it also an excellent means of treating infected wounds of the tibia.

43. **Hydrotherapy of Tabes.**—Munter describes the scientific basis for hydrotherapy of tabes in its effect on the normal supply of blood and the course of the nerve stimulus. The function of the nerves is remarkably influenced by the blood supply, as he demonstrated some years ago by his experiments on tendon reflexes in dogs. Compression of the abdominal aorta, even for a few seconds, suspends the tendon reflex, and it reappears again as soon as the normal flow of blood is restored. The blood vessels are not found much altered in tabes. Cases of tabes have been observed in which the abolished knee-jerk returned after the subject had become hemiplegic, and on the affected side. This indicates that even in degenerated nerve fibers the intact remainder can be stimulated to increased function. These and similar facts which he cites suggest a basis for successful functional and nutritional influencing of the nerve elements by thermic stimuli and hydrotherapy in general. His experience has shown that the most effective means of treating the attacks of pain is with a bath of forty-five to sixty minutes, at a temperature of 95 F., with or without the addition of a little salt ("1 per cent. Sool"). The temperature is kept at the same point and all irritation avoided, the patient afterward returning directly to bed. This bath serves as "practice" for the nerves, while the brief application of cold has a tonic, stimulating and strengthening effect on the nerves. Tabes induces a peculiar sensitiveness to cold and its prolonged application is almost certain to cause recurrence of pains. He therefore warns against a temperature less than 85.5 F. except for a brief dash of quite cold water for five to ten seconds and no more. He describes his method of applying these therapeutic measures, modifying them to the individual case and promoting reaction in every way after the tonic baths. He advises the baths once to three times a week, continuing them for a year or longer, instead of crowding a large number into a short space of time. Electric, Faradized water baths have also proved useful, but he rejects as injurious steam, sand and electric light baths. If a sweat bath is needed dry heated air is the best for tabes. Even in advanced cases these hydrotherapeutic measures may benefit and can do no harm if all tendency to induce hyperfunction is carefully avoided. By the combination of hydrotherapy with the usual measures it may be possible to arrest the degenerative process and provide a substitute for the lost fibers by training the remaining intact elements.

IBID.—Eulenburg approves of Munter's statements in general, and in particular of his denunciation of baths below 85.5 F. even of carbonated waters. But at the same time he states an exception should be made for the local application of cold along the spine in the form of "Chapman's back tube," or some similar contrivance. He has been using them for thirty years and found them extraordinarily beneficial in the local and violent radiating pains of the early stages of tabes. He commends these appliances as a convenient and effective measure too little appreciated as yet. They can be used at home while most hydrotherapeutic measures require a special equipment. He concludes by protesting against the use of the term "pseudotabes" which is so currently employed. He thinks that it is merely a cloak for "pseudo-diagnostic uncertainty or incompetence." Certain cases of syphilis of the spinal cord present the clinical manifestations of tabes, but it is a syphilitic affection and requires antisyphilitic treatment. Neurasthenia is sometimes erroneously diagnosed as tabes, and neurasthenic tabophobia is of even more frequent occurrence. None of these should be labeled "pseudotabes."

44. **Intermittent Hydrarthrosis.**—Burchard describes a case of idiopathic intermittent hydrarthrosis. The attacks corresponded to some extent with the menstrual periods and vanished during pregnancies. They also alternated with attacks of bronchial asthma, one substituting and excluding the other. Fifty-seven cases have been recorded in the literature and 41 out of 55 were idiopathic. Spontaneous cutaneous hemorrhage may occur in the course of intermittent hydrarthrosis. The records seem to indicate that the vascular system in such persons is exceptionally unstable, actual vasomotor ataxia.

46. **Pathology and Surgery of Gallstones.**—Merk reviews the experiences of the various Heidelberg surgeons, which include 128 cases since the last report was published. He concludes from them and other data that the formation of gallstones is an occurrence which happens only once during life. Complete removal of all the stones is followed by the permanent cure of the trouble. This operation is simple and free from danger in the early stages of biliary lithiasis, so long as the stones remain in the gall-bladder, which is almost exclusively the seat of their formation. But when the stones have once passed into the lower biliary passages the prospect of a radical cure with a single operation diminishes with the increasing difficulty and danger of the intervention. The disturbances and lesions which they have caused have then to be taken into account. The operations reviewed were performed by Czerny, 85; Jordan, 17; Marwedel, 20, and Petersen, 6.

47. **Metastatic Kidney Abcesses.**—Jaffe reports five cases of abscesses in the kidney in men. The staphylococcus was derived from four of them. They were metastatic to a furuncle on the neck in two cases, to a parotitis, a carbuncle or an abscess in the tonsil in the other patients. The interval in the latter case was four weeks. The symptoms were deceptively slight. Fever did not appear until that from the primary lesion had vanished. A chill was the first sign of trouble. Pain in kidney region was not noted until several days after the febrile temperature. The abscess in the kidney healed rapidly after nephrotomy in all except one case. This was a debilitated man of 55 with gonorrhea. The renal lesion recurred and required nephrectomy as the last resort, to which the patient succumbed.

49. **Artificial Gall-Bladder Intestinal Fistula.**—Radsiewsky has collected 56 cases and tabulates the details of the reason, operation and results. They show that the fistula is not in itself a source of danger in the sense of infection of the walls of the biliary passages or of the liver. But the walls of the biliary passages become dilated and thicker, with neoformation of lymph follicles in the hypertrophied mucosa of the gall-bladder. Microbes also find their way far into the liver and the biliary passages display a mild catarrhal condition. Retention of the contents of the biliary passages causes serious consequences. The prognosis depends mainly on the underlying affection.

50. **Kidney Affections and Pregnancy.**—Fehling mentions that eclampsia has occurred in his experience in only 5 per cent. of his patients with "pregnancy albuminuria." The prognosis of "pregnancy kidney" is usually favorable in the absence of eclampsia and premature detachment of the placenta. The latter is almost invariably fatal for the fetus. In case of chronic nephritis pregnancy should be prevented. If a pre-existing chronic nephritis becomes much aggravated during a pregnancy the family physician should consult with an obstetrician as to the advisability of inducing premature delivery.

51. **Infantile Stenosis of Pylorus.**—Trantenroth has been studying twelve cases of stenosis of the pylorus in nurslings.

Five entailed a fatal termination. He concludes that organic stenosis can be cured only by operative intervention, and that the functional nature of the stenosis is no contraindication to an operation, as it is absolutely impossible in most cases to distinguish between these two forms.

55. **Furuncles as Source of Paranephritis and Pyonephrosis.**—Cahn describes three cases in which a paranephritic abscess formed soon after the healing of a furuncle. Busquet has described a similar case. Cahn also reports a paranephritic abscess apparently spontaneous but finally accepted as traceable to a preceding follicular tonsillitis. No cause could be discovered in a fifth case. All were accompanied by delirium and severe general symptoms and all were promptly cured by evacuation of the abscess. He has known of instances in which osteomyelitis or joint suppurations followed furuncles on the skin, and concludes with the history of a case of protracted renal lithiasis in which suppurative pyelitis suddenly developed consecutive to a furuncle. This is the only case in his experience in which a suppurative pyelitis developed that did not have its origin in the bladder.

57. **Influencing the Liver by the Diaphragm, and Liver Massage.**—Walz analyzes the effect of deep inspiration and expiration on the liver and asserts that both have a powerful effect in stimulating the circulation in the liver. Moebius first called attention to this means of influencing this organ and semi-facetiously entitled it "massage of the liver." Forced expiration has a marked effect on the emptying of the gall-bladder. De Frumerie has recently published a systematic study of actual massage of the liver. He states that direct massage stimulates the extrahepatic circulation and reduces the congestion in the portal veins. It also stimulates the functions of the liver cells in acute and chronic insufficiency of the organ. He witnessed the disappearance of sugar from the urine in certain cases of diabetes, also improvement in gout and in passive congestion of the organ in cardiac affections and in malaria, and in certain cases of catarrhal icterus and gall-stones after the acute attacks were past. Direct massage is contra-indicated, he states, in case of carcinoma, fatty cirrhosis, amyloid degeneration, echinococcus or abscesses in the liver. He observed hemorrhage and cardiac collapse after too abrupt application of the massage. Moebius' respiration massage, on the other hand, is entirely harmless.

58. **The Need of Food at High Altitudes.**—Ranke has been making a study of the effect of climate and temperature on the nutrition. He finds that in the tropics there is a conflict between the heat generated and the metabolism and strength. The reverse occurs in the cold of high altitudes. All the vital processes are stimulated instead of being depressed and the metabolism as a whole is promoted in every direction.

59. **Foreign Bodies in the Uterus.**—Hermann has observed two cases of hairpins in the uterus. One patient was a girl of 15 and one a woman of 32. He reviews 21 other cases that have been published and concludes that foreign bodies may remain in the uterus for a relatively long period without causing severe trouble. They seldom induce septic processes. The foreign body is usually a fragment of a hairpin, and it is easily overlooked in the investigation unless the dull curette is used. Eight cases are on record in which a pessary slipped into the uterus from the vagina.

66. **Atmocausis Uteri.**—Hammerschlag reviews the results of the application of steam to the interior of the uterus in forty-four cases. It proved, to say the least, fully as effective as curetting and it succeeded in many cases where the latter failed. It was the direct means of saving life in a few instances of hemophilia. It is especially effective in preclimacteric hemorrhages and in hemorrhage from a myomatous uterus. He does not approve of any local treatment of puerperal affections and states that inflammatory processes in the vicinity of the uterus are a direct contra-indication for atmocausis, as also deformities of the organ. It may serve to induce artificial sterility by obliteration of the uterine cavity. Successful cases of this kind have been reported.

70. **Blood Pressure in Chronic Nephritis.**—Von Czyhlarz examined twelve patients with chronic nephritis in regard to the blood pressure during the course of treatment. He found that in every case the blood pressure diminished, although no symptoms were apparent which indicated weakness of the heart. This decrease in the blood pressure is evidently connected with the improvement induced by the rest in bed, etc. As the headache, vertigo and other subjective symptoms vanished with the lower blood pressure, he is inclined to consider them—to some extent, at least—as directly due to the high blood pressure.

71. **Differential Diagnosis of Pleuritic Effusions.**—Koranyi uses the forefinger of the left hand instead of the stick which Reichmann recommends (see above). He taps with the right forefinger on the second joint of the left forefinger placed perpendicularly on the skin while listening through the stethoscope. By this means it is easy to differentiate a pleural effusion from pneumonia. The best point for the auscultation is on the scapular line inside the dulness, following the line downward. If there is a pleural effusion the sound changes at the costal arch while in case of pneumonia without exudate the sound changes two finger-breadths above this. In case the effusion is bilateral the change occurs at the same height on each side. This auscultatory percussion is more valuable in differentiating a pleural effusion than percussion of Traube's space, as it can be extended over the entire chest.

74. **The Blood Count in Mumps.**—Pick relates that more than 623 cases of mumps have occurred in Prague during the last seventy-one weeks and the epidemic has included an unusual number of adults. The blood count in ten cases examined showed that the number of leucocytes was constantly normal. The lack of hyperleucocytosis may aid in differentiating mumps from orchitis of other origin, gonorrheal for instance, which was accompanied by a leucocytosis of 8000 to 16,000 in four cases examined. Its absence in mumps classes the disease as a purely serous exudation in the group with serous pleuritis or articular rheumatism.

77. **Puerperal Rheumatism.**—Singer has observed six cases of articular rheumatism or its equivalent endocarditis, developing during a febrile puerperium. He described some time ago a case of gonococcus pyemia following on the enucleation of a myoma. The primary gonorrheal affection had occurred years before and the coccus had probably been lying latent in the tissues until new and favorable conditions for its growth were produced by the operation. The same mechanism probably explains the rheumatism which accompanies or directly follows a childbirth. Lebert has described a fatal case of endocarditis commencing in the fourth month of pregnancy. Lenhartz has witnessed two fatal cases of puerperal nephritis or acute articular rheumatism in both of which numbers of streptococci were found. Puerperal rheumatism differs in no respect from the ordinary acute articular rheumatism and it can be classified as of gonorrheal origin or as due to the staphylococcus or streptococcus. In case of valvular affections of unknown etiology, the possibility of previous puerperal infection should be borne in mind.

79. **Treatment of Tuberculous Hemoptysis.**—Weismayr is superintendent of the Alland Sanatorium and proclaims that he has not had a single case of severe hemorrhage from the lungs since he adopted the method of treating hemoptysis which he outlines. He aims to arrest it in its incipiency and not allow severe hemorrhage to occur. Traces of blood in the sputa after coughing or one or two bloody expectorations in the early morning do not indicate special medical intervention beyond imposing quiet. But if traces of blood are noted frequently in the sputa or the patient spits pure blood and it is traced to the lung, he should go to bed at once, with absolute physical and mental repose. The diet should be mostly liquid, and some narcotic should be administered to suppress coughing. Even the slightest hemorrhage may be from some large vessel and any indiscretion may bring an outpour. If the hemorrhage is considerable from the start, expectoration of the accumulated blood must be promoted and narcotics of any kind are strictly contra-

indicated. The patient should lie propped up in bed with an ice bag over the heart, but the first and most important measure is to wrap each limb with a bandage commencing at the periphery. It should be applied only tight enough to check the return flow of venous blood and not enough to prevent the inflow of fresh blood. This has a remarkable effect in reducing the blood pressure and will frequently arrest the nemorrhage at once. The patient "bleeds into his limbs" as it were. The bandage that is most annoying is removed first, thus gradually removing them all in turn, but with long intervals between them. Expectoration should be promoted by every means, deep breathing to excite coughing, even an emetic, but he has never had to resort to these, as the bandages to the extremities and the avoidance of narcotics have always answered the purpose. So long as fresh blood can be detected in the sputa the patient should take nothing but cold milk, sipping a little very slowly and often, possibly every fifteen minutes. Solid and warm food, alcohol, coffee, tea and the like must be strictly avoided and constipation prevented by irrigations. The patient should not leave the bed for at least three days after the sputa have been entirely free from blood and he should afterward refrain from every thing calculated to increase the blood pressure.

80. **Diet and Treatment in Chronic Kidney Affections.**—During the last two years Wiczkowski has been making careful investigation of the effects of a milk diet, white meat and dark meat in turn for one or two weeks at a time in 85 cases of chronic kidney affections. He was unable to discover any evidence showing that the diet in a single instance had an influence on the amount of albumin eliminated. On the other hand, the patients who were allowed to eat at will enjoyed their food with so much more relish that their general condition far surpassed those on the milk or other special diet. He found, however, that one or two tablespoonfuls of olive or cod-liver oil had an unmistakable effect in diminishing the albuminuria and edema, while the general health also improved under it. It seems as if the fats promoted the digestion of albumin. He found venesection useful in case of uremic symptoms. In three cases the effects of the venesection surpassed all expectations as it was followed by complete recovery after three weeks in one case and after two and four months in the others.

81. **Acute Hemorrhagic Pancreatitis.**—Kraft produces evidence to prove that fat necrosis is not necessarily a sign of a preceding pancreatitis but may have some other origin. On the other hand, the absence of fat necrosis is not a sign that there has been no pancreatitis. He adds that there is not a single pathognomonic sign on record in pathologic anatomy to reveal that the subject has passed through an acute hemorrhagic pancreatitis. It may develop without causing a single symptom or merely vague ones with no characteristic features, although resistance and tenderness in the epigastrium are usually noted. Reviewing twelve cases he has had occasion to observe he notes that one simulated appendicitis, one ileus and several gallstone colic or perforation of the stomach. This variety in the symptoms he ascribes to the fact that the pancreatitis causes first merely loss of appetite and vague digestive disturbances with general lassitude, until the hemorrhage occurs and stretches the capsule and with it the parietal peritoneum which Lennander has shown is the only portion of the peritoneum which is sensitive. The intensity of the pain is proportional to the amount of the hemorrhage and the attack recurs with a new hemorrhage. The intervals are free from pain so long as the hemorrhages are small. Hemorrhage in the pancreas itself causes pains in the region of the umbilicus and they do not radiate. If a hemorrhage occurs which bursts the capsule and the blood settles at the root of the mesentery or, as is more liable, flows down between the two sheets of the mesocolon corresponding to the transverse and ascending colon, the pains shift more to these points, and there is constant tenderness on pressure and more or less pain. The inflammation may remain restricted to the pancreas or may spread in various ways. The most frequent is the invasion of the omentum. The foramen of Winslow may become closed in the course of the inflammatory process by deposits of fibrin, thus limiting its further extension as occurred in one of the cases described. Or the inflammation may spread along the under surface of the liver and cause tenderness in this region, or along the colon into the greater cavity of the peritoneum. The inflammation in exceptional cases follows the same route as the hemorrhage and causes extraperitoneal inflammation between the two sheets of the ascending mesocolon or in the mesentery. The pancreatitis may terminate in complete recovery and we have no means of knowing how often this happens. The severe forms are generally fatal. Only two of the twelve cases described terminated in recovery. In the others there were evidences of coincident tuberculosis, syphilis, cardiac affections or cholemia. Laparotomy was done in one case on account of gallstones and as an exploratory measure in another, but death soon followed in each instance. One of the patients who recovered was a woman of 56 who had exhibited symptoms of a gastrointestinal catarrh for a few months when suddenly pains developed accompanied by menacing collapse. The symptoms suggested perforation of the stomach, but the excruciating pain might also be explained by hemorrhage in the panereas. The latter diagnosis was confirmed by the discovery of two fluctuating tumors to the rear of the stomach. The tumors gradually decreased in size as pancreatin was administered. The patient slowly recovered her usual health. The second case commenced suddenly with gastrointestinal symptoms as in the preceding case, nausea, oppression in the cardia, eructations and some diarrhea. These symptoms amended, but suddenly severe, non-radiating pain developed in the umbilical region. It lasted fifteen minutes. The patient was a machinist, 38 years old. A similar attack recurred the next morning, the pains also localized at the umbilicus but extending rather more to the back. The acute pains subsided in the course of a few hours, but left a dull pain rather below and to the rear of the stomach. During the attack of pain he vomited once and eructations were frequent, with passage of flatus and stools. The abdomen was hard, especially above the umbilicus, where it was somewhat distended. There was considerable tenderness over the abdomen, but it did not extend into the flanks and no tumor could be palpated. The diet was regulated and opium given, with pancreatin, and two months after the beginning of his illness he was able to resume work. The slow recovery confirmed the diagnosis of acute hemorrhagic pancreatitis. The age was also a point in its favor. The urine was apparently normal in both these cases. Kraft's patients were between 24 and 40 except one, who was 70, four who were between 50 and 60 and one, 44 years old. Each case is described in detail with the postmortem findings at ten autopsies. Gallstones were found in only two, but in another there was compression from a cyst in the pancreas and in another there was thrombosis in the portal vein. Pancreatin seemed to exert a very favorable influence on the course of the affection in the two cases in which it was administered.

84. **Cure of Exophthalmic Goiter.**—Massini's treatment was a combination of complete psychic repose, regulation of the diet, piils of carbonate of iron and Faradization, applying the positive pole to the back of the neck and the negative to the eyes, throat or heart. When the patient left the hospital the pulse had been reduced from 155 to 75 or 80, and there was no trace of the goiter nor tremor.

86. **Spinal Cocainization in Sciatica.**—Cavazzani of Venice has been systematically applying this method of treating sciatica and reports brilliant results from it. All his patients were cured and none has had a recurrence since, some for more than a year. He proceeds according to Tuffier's directions except that he allows 2 or 3 gm. of the cerebrospinal fluid to flow. He collects it in a porcelain vessel already containing 2 cg. of cocain hydrochlorate in the form of a powder. It rapidly dissolves in the fluid and the whole is then reinjected slowly through the same needle. There were no by-effects noticeable in any of the twenty patients thus treated except transient nausea in one case, not sufficient to induce vomiting.

89. **Splenectomy for Movable Malarial Spleen.**—The spleen weighed 1980 gm. and was 14 by 25 cm. in size. The patient was restored to comparative health by its removal.

91. **Toxic Origin of Seborrhea.**—Tito suggests that seborrhea may be due to the elimination of toxins elaborated in the organism. It usually follows some protracted illness, and is in turn followed by a greater or less degree of neurasthenia.

92. **Difficulty in Diagnosing Certain Cases of Typhoid Fever and Appendicitis.**—Dahlgren's article is based mainly on the work of Thayer, Deaver, Cushing and other Americans, with his own experiences. He agrees with the recent communications in regard to the importance of the leucocyte count for the differentiation.

93. **Significance of Hyperplastic and Tuberculous Processes in the Pharyngeal Tonsils.**—Floderus believes that a large proportion of scrofulous children are tuberculous. He found enlarged submaxillary glands in 92.06 per cent. of several hundred children investigated, and enlarged jugular glands in 91.6 per cent. The pharyngeal tonsils were enlarged in 48.89 per cent. of the cases of much hypertrophy of the jugular glands, and the tonsils proper in 32.59 per cent. He emphasizes the importance of these findings as a menace to the future health of the child, believing that the morbid pharyngeal tonsils in particular are the source of descending tuberculosis later. The adenoid child is thus especially predisposed to secondary tuberculosis.

Queries and Minor Notes.

MEDICAL PRACTICE IN COLORADO AGAIN.

INTERIOR, VA., June 2, 1902.

To the Editor:—Please give me the law for medical registration in Colorado, and the name and address of the secretary of the Board. C. S. K.

ANS.—A diploma from a legally chartered medical college, recognized by the Board of Examiners, showing attendance on four courses in four separate years, or a satisfactory examination. Secretary Board of Examiners, Dr. S. D. Van Meter, Denver.

MUST INTERNES BE LICENSED PHYSICIANS?

CHICAGO, May 25, 1902.

To the Editor:—Must a hospital interne in New Jersey have a license while serving his interneship? If not, will he also be allowed to go out on the hospital ambulance? J. H. G.

ANS.—The law in regard to state medical examination in New Jersey does not apply to any one while actually serving as a member of the resident medical staff of any legally incorporated charitable or municipal hospital or asylum.

The Public Service.

Army Changes.

Movements of Army Medical Officers under orders from the Adjutant-General's Office, Washington, D. C., May 22 to 28, 1902, inclusive:

William B. Banister, major and surgeon, U. S. A., member of a retiring board to meet at the War Department, Washington, D. C.; also member of a board to meet at Washington, D. C., to examine officers of the Army for promotion.

William H. Block, captain and asst.-surgeon, Vols., on the expiry of his present leave of absence, will report for temporary duty at Fort McHenry, Md.

August von Clossman, contract surgeon, member of a board at Jefferson Barracks, Mo., to examine officers of the Army for promotion.

Christopher C. Collins, lieutenant and asst.-surgeon, U. S. A., from duty at the General Hospital, Presidio of San Francisco, to Manila, P. I., for assignment in the Division of the Philippines.

Elmer A. Dean, lieutenant and asst.-surgeon, U. S. A., now at San Francisco, to report for duty at the General Hospital, Presidio of San Francisco.

Joseph H. Ford, lieutenant and asst.-surgeon, U. S. A., member of a board to meet at Washington, D. C., to examine officers of the Army for promotion.

Edward F. Geddings, lieutenant and asst.-surgeon, U. S. A., from duty at Morro Castle, Santiago, Cuba, to duty at the Indianapolis Arsenal, Department of the Lakes.

Edward T. Gibson, captain and asst.-surgeon, Vols., relieved from further duty on the transport *Crook*, and assigned to duty in the Division of the Philippines.

Luther S. Harvey, captain and asst.-surgeon, Vols., leave of absence on account of sickness is further extended fifteen days.

Deane C. Howard, captain and asst.-surgeon, U. S. A., from duty in the Artillery defenses of Havana, Cuba, to duty at Morro Castle, Santiago, Cuba, relieving Lieutenant Edward F. Geddings, asst.-surgeon, U. S. A.

George B. Jones, contract surgeon, former orders revoked; as soon as his services can be spared in the Department of California he will report for transportation to Manila, P. I., for assignment in the Division of the Philippines.

William P. Kendall, major and surgeon, U. S. A., detailed to represent the Medical Department of the Army at the Eleventh Annual Meeting of the Association of Military Surgeons of the United States, to be held at Washington, D. C., June 5 to 7, 1902, in addition to those already designated for this duty.

Theodore C. Lyster, lieutenant and asst.-surgeon, U. S. A., former orders relieving him from duty at the General Hospital, Presidio of San Francisco, to proceed to Manila, P. I., for assignment, revoked.

Clarence J. Manly, lieutenant and asst.-surgeon, U. S. A., leave of absence extended one month.

Paul Mazzuri, captain and asst.-surgeon, Vols., leave of absence for one month, with permission to apply for an extension of one month, granted.

James C. Merrill, major and surgeon, U. S. A., member of a retiring board to meet at the War Department, Washington, D. C.

William H. Moncrief, contract surgeon, member of an examining board at Jefferson Barracks, Mo., vice Contract Surgeon August von Clossman, relieved.

William H. Pomeroy, contract surgeon, leave of absence for two months, with permission to go beyond sea granted, to take effect about June 18, 1902.

John M. Shepherd, contract surgeon, former orders directing him to proceed to Fort Schuyler, N. Y., amended so as to direct him to proceed to Fort Hamilton, N. Y., for duty.

John H. Stone, captain and asst. surgeon, U. S. A., member of an Army retiring board at Washington, D. C., vice Major James C. Merrill, surgeon, U. S. A., relieved.

Francis A. Winter, captain and asst.-surgeon, U. S. A., member of a board at Jefferson Barracks, Mo., to examine officers of the Army for promotion.

Navy Changes.

Changes in the Medical Corps of the Navy, for the week ending May 31, 1902:

Surgeon J. H. Field, appointed surgeon from May 19.

Asst.-Surgeon W. H. Ulsh, granted sick leave for 3 months.

Pharmacist R. Waggener, ordered to Key West Naval Station.

Pharmacist S. W. Douglass, detached from Key West Naval Station and ordered to Naval Proving Ground, Indian Head, Md.

P. A. Surgeon F. L. Benton, detached from the *Columbia*, May 31, and ordered to duty with a recruiting party, leaving New York on that day.

Health Reports.

The following cases of smallpox, yellow fever, cholera and plague have been reported to the Surgeon-General, U. S. Marine-Hospital Service, during the week ended May 31, 1902:

SMALLPOX—UNITED STATES.

California: Los Angeles, May 10-17, 5 cases; San Francisco, May 11-18, 1 case.
Colorado: Denver, May 10-17, 1 case.
Illinois: Chicago, May 17-24, 14 cases.
Kentucky: Covington, May 10-24, 22 cases; Lexington, May 10-17, 2 cases.
Louisiana: Shreveport, May 17-24, 1 case.
Massachusetts: May 17-24, Boston, 28 cases, 6 deaths; Fall River, 1 case, 1 death; Lowell, 3 cases; Malden, 2 cases; Melrose, 2 cases, 1 death; Somerville, 1 case.
Michigan: Detroit, May 17-24, 6 cases.
Minnesota: Minneapolis, April 18-May 17, 23 cases; Winona, May 17-24, 4 cases.
Missouri: St. Joseph, April 1-30, 50 cases, 2 deaths.
New Hampshire: Nashua, May 17-24, 2 cases.
New Jersey: Camden, May 17-24, 2 cases; Newark, May 17-24, 53 cases, 8 deaths.
New York: New York, May 17-24, 36 cases, 11 deaths; Yonkers, May 16-23, 1 death.
Ohio: Cincinnati, May 16-23, 14 cases; Cleveland, May 9-16, 8 cases, 4 deaths; Dayton, May 17-24, 2 cases.
Pennsylvania: Johnstown, May 17-24, 4 cases; Philadelphia, May 17-24, 30 cases, 3 deaths.
Tennessee: Memphis, May 17-24, 8 cases.
Utah: Salt Lake City, May 10-17, 1 case
Washington: Tacoma, May 11-18, 1 case.

SMALLPOX—FOREIGN.

Belgium: Liege, April 26-May 3, 1 death.
Canada: Winnipeg, May 10-17, 3 cases, 1 death.
France: Paris, April 26-May 3, 4 deaths; Rheims, April 25-May 4, 2 cases, 1 death.
Great Britain: Glasgow, May 9-16, 1 case; Jarrow-on-Tyne, May 3-10, 2 cases; London, May 3-10, 248 cases, 44 deaths; New Castle-on-Tyne, May 3-10, 1 case; South Shields, May 3-10, 6 cases.
India: Calcutta, April 18-26, 6 deaths; Madras, April 19-25, 1 death.
Italy: Palermo, May 3-10, 9 cases, 2 deaths.
Japan: Formosa, Tamsui, Jan. 1-31, 15 cases; Nagasaki, April 21-30, 1 case.
Mexico: Vera Cruz, May 10-17, 6 cases, 5 deaths.
Russia: Moscow, April 26-May 3, 8 cases, 1 death; St. Petersburg, April 26-May 3, 7 cases, 1 death.
Straits Settlements: Singapore, March 29-April 12, 1 death.
Turkey: Smyrna, April 27-May 4, 2 deaths.

YELLOW FEVER.

Mexico: Vera Cruz, May 10-17, 14 cases, 8 deaths.

CHOLERA.

India: Calcutta, April 19-26, 146 deaths.
Straits Settlements: Singapore, March 29-April 12, 48 deaths.

PLAGUE—INSULAR.

Hawaii: Honolulu, May 8-13, 5 deaths.

PLAGUE—FOREIGN.

China: May 19, Canton, epidemic; Yityang, epidemic; Taileung, epidemic.
India: Calcutta, April 19-26, 577 deaths.
Japan: Formosa, Tamsui, Jan. 1-31, 159 cases, 141 deaths.